

**EPHRAIM SUHIR, Ph.D.**

Bell Laboratories, Physical Sciences and Engineering Research Division, Murray Hill, NJ, USA (ret);

Portland State University, Depts. of Mech. and Mat., and Elect. and Comp. Engng, 1825 SW Broadway, Portland, OR 97201 Phone: [503-725-3000](tel:1-503-725-3000); USA; Bordeaux Univ., College of Science and Technology, Talence, France; and ERS Co., Los Altos, CA 94024, USA, [www.ERSuhire.com](http://www.ERSuhir.com), Tel. 650-969-1530,

Cell. 408-410-0886, e-mail: [suhire@aol.com](mailto:suhire@aol.com), [e.suhir@ieee.org](mailto:e.suhir@ieee.org)

RESEARH GATE (RG) INFORMATION (as of Jan.30, 2024): Profile strength: **all-star**; RG score: **42.41** (higher than 97.5% of RG members); Research Interest score: **2,157** (higher than 97% of RG members and higher than 83% of RG members who first published in 1982). Downloads (“Reads”): **42,408;** Citations: **6,517;** Citations since 2017: **2,176**; Highly Influential Citations: **107;** Citations value:  **84.5%**; H-index (metric of the productivity and citation impact of the publications) **H-37**.

THREE MOST CITED PUBLICATIONS

* "Stresses in Bi-Metal Thermostats", ASME J.of Appl. Mech. **(1986), 623 citations;**
* **"**New Approach to the High Quality Epitaxial Growth of Lattice‐Mismatched Materials" (co-authored with S. Luryi), APS Appl. Physics Letters **(1986), 463** citations;
* "Interfacial Stresses in Bimetal Thermostats", ASME J. of Appl. Mech. **(1989), 414** citations;

**CURRENT RESEARCH INTERESTS**

* Applied Mathematics and Mechanics, Materials Science and Engineering, Applied and Mathematical Physics
* Analytical ("Mathematical") Modeling in Applied Science and Engineering
* Vehicular (Aerospace, Automotive, Railroad, Maritime) Electronics and Photonics: Design for Reliability
* Design for Reliability (DfR) of Electronic, Opto-Electronic and Photonic Assemblies, Packages and Systems
* Applied Probability and Probabilistic DfR (PDfR) of Electronic and Photonic Materials, Devices and Systems
* Photonics, Fiber Optics, Mechanics of Optical Fibers
* Thin Film Mechanics and Physics
* Shock and Vibration Analyses and Testing
* Dynamic Response of Materials and Structures to Shocks and Vibrations
* Thermal Stress Failures in Electronics and Photonics: Prediction and Prevention
* Solder Materials and Solder Joint Interconnections in Electronics and Photonics Engineering
* Polymeric Materials in Electronics and Photonics
* Photovoltaic and Thermo-Electric Modules: Physical Design for Reliability
* Stretchable (Large Area) Electronics and Photonics: Physical Design for Reliability
* Lattice-Misfit Systems: Stress Analysis and Reliability Evaluations
* "Quantifying Unquantifiables" in Materials Science, Reliability Physics, Ergonomics, Healthcare and Medicine
* “Human-in-the-Loop” (HITL): Human-System Interaction/Integration
* Vehicular (Aerospace, Maritime, Automotive, Railroad) Safety Engineering
* Medical/Clinical Undertakings: Probabilistic Predictive Modeling
* Analogies, and Their Role in Applied Science and Engineering

**BRIEF BIO** Ephraim Suhiris on the ***faculty*** of the Portland State University, Portland, OR, USA, and Bordeaux Univ., France. He is also CEO of a Small Business Innovative Research (SBIR) ERS Co. in Los Altos, CA, USA, is ***Foreign Full Member*** of the National Academy of Engineering, Ukraine (he was born in that country); ***Life Fellow*** of the Institute of Electrical and Electronics Engineers (IEEE), the American Society of Mechanical Engineers (ASME), the Society of Optical Engineers (SPIE), and the International Microelectronics and Packaging Society (IMAPS); ***Fellow*** of the American Physical Society (APS), the Institute of Physics (IoP), UK, and the Society of Plastics Engineers (SPE); and ***Associate Fellow*** of the American Institute of Aeronautics and Astronautics (AIAA). Ephraim has authored ***500+ publications***, presented numerous plenary, keynote, invited and contributed talks and taught continued education courses worldwide. He received many ***professional awards***, including 1996 Bell Labs. *Distinguished Member of Technical Staff (DMTS) Award* (for developing effective methods for predicting the reliability of complex structures used in AT&T and Lucent Technologies products), and 2004 ASME *Worcester Read Warner Medal* (for outstanding contributions to the permanent literature of engineering and laying the foundation of a new discipline “Structural Analysis of Electronic Systems”). He is the third “Russian American”, after S. Timoshenko and I. Sikorsky, who received this prestigious award. Ephraim's **most recent awards** are 2023 SHEN *International**Research* *Award on Science, Health and Engineering*" for the paper "Probabilistic Fitts' Law and the Likelihod of the Tunguska Type of Event", Journal of Space Safety Engineering, 10(1), March 2023"; 2019 IEEE Electronic Packaging Society (EPS) *Field award* (for seminal contributions to mechanical reliability engineering and modeling of electronic and photonic packages and systems); 2019 IMAPS*Lifetime Achievement award* (for making exceptional, visible, and sustained impact on the microelectronics packaging industry and technology) and *2022 IEEE SCV Section**Outstanding Engineer*award (for seminal contributions to several critical IEEE fields, including probabilistic design-for-reliability of microelectronic and photonic materials, devices and systems, and the role of the human factor).

**PERSONAL DATA** US citizen (naturalized in 1985). Goal oriented, highly motivated and creative performer with proven leadership, administrative and coaching ability, extensive project and financial management experience, team player attitude, strong analytical and planning skills, effective communications (both written and verbal) and presentation skills, as well as excellent organizational, interpersonal, and negotiation capabilities. Possesses thorough and in-depth understanding of the state-of-the-art in materials, mechanical, electrical, optical, information, telecommunication, reliability and related areas of engineering, of new and emerging technologies, and a clear vision for the most promising directions in the development of applied science and engineering. Works exceptionally well in dynamic and rapidly changing environments, under pressure and in short time frames. Performs effectively across multiple organizations, companies and departments, with specialists from various disciplines and fields, and with people of different mentalities, origins, and cultural backgrounds. Good public speaker. Communicates his ideas well to any audience. Quick learner. Exhibits strong interest in, and possesses good knowledge of, foreign cultures, values, attitudes, and customs. Always willing to learn new things and has exceptional receptiveness to, and quick grasp of, new approaches and ideas. Has a sociable disposition and gets along well with peers, supervisors and subordinates. Skills include: active listening; effective communication, interpersonal and management skills; leadership and problem solving abilities; time management skills. Bi-lingual: English and Russian. Fluent in Ukrainian (was born in Ukraine). Working knowledge of German (studied at school and when on the faculty of the Technical University, Vienna, Austria).

EDUCATION

* PhD., Dept. of Mechanics and Mathematics, Moscow State University, Moscow, Russia
* MS., Dept. of Naval Architecture, Institute of Maritime Engineers, Odessa, Ukraine

**JOB HISTORY** (after arriving to the US in 1980)

**1965-1979** Nikolayev Institute of Naval Architecture, Ukraine, Associate Professor

**1980-1983**: Exxon Corp., Florham Park, NJ, USA, Exxon Research and Engineering Co. and Exxon International Co., Senior Project Engineer

**1983-2001**: Bell Laboratories, Murray Hill, NJ, USA,Basic Research, Physical Sciences and Engineering Research Division, Distinguished Member of Technical Staff (ret)

**2001-2003**: Iolon, startup company, San-Jose, CA, USA,Vice President, Reliability and Materials

**2003-2005**: Nano-Conduction, startup company, Sunnyvale, CA, USA,Vice President, Reliability and Materials

**2005-Present**: SBIR/STTR ERS Co., 727 Alvina Ct., Los Altos, CA 94024, USA, Chief Executive Officer

**2005-Present**: Portland State University, Depts. of Mech. and Mat., and Elect. and Comp. Engineering, Portland, OR, USA,Research Professor

**2005-Present**: Bordeaux University, Talence, France, Visiting Professor

**2005-2022** Technical University, Dept. of Applied Electronic Materials, Inst. of Sensors and Actuators, Vienna, Austria, Visiting Professor

**2012-2022** James Cook University, Mackay Institute of Research and Innovation, Townsville, Queensland, Australia, Adjunct Professor

**MAJOR ACCOMPLISHMENTS**

* **Pushed the envelope of applied and engineering mechanics, and applied materials’ science fields** by developing numerous predictive analytical (“mathematical”) models that are widely used worldwide in the design and stress analyses of electronic and photonic materials, devices and systems (see IEEE EPS Field Award citation)
* **Made outstanding contributions to the permanent literature of engineering** and created a new discipline - Structural Analysis of Electronic and Photonic Systems (see ASME Worcester Warner Medal Award citation)
* **Initiated a new fruitful direction in human and particularly in aerospace human psychology** - quantitative probabilistic analysis of the outcome in various human-in-the-loop related missions and off-normal situations (see comments on my 2019 CRC book "Human-in-the-Loop: Probabilistic modeling of an aerospace mission outcome")
* **Developed a new generation of moisture-resistant nano-materials**, with applications (three US patents)
* **Organized and chaired numerous conferences, symposia and sessions**, and taught continuing education courses on the reliability physics of electronic and optical materials worldwide, with an emphasis on aerospace and medical electronics
* **Developed and applied effective probabilistic metods for quantifying performance criteria** in varios engineering and applied science fields that are usually vied as unquantifyable: materials, ergonomics, medical, human-in-the-loop

**MEMBERSHIPS**

* ***Foreign Full Member*:** National Academy of Engineering and Applied Science, Ukraine;
* ***Life Fellow*:** Institute of Electrical and Electronics Engineers (IEEE);American Society of Mechanical Engineers (ASME);International Microelectronics and Packaging Society (IMAPS);Society of Optical Engineers (SPIE);
* ***Fellow****:* Institute of Physics (IoP, UK); American Physical Society (APS); Society of Plastics Engineers (SPE);
* ***Associate Fellow*:** American Institute of Aeronautics and Astronautics (AIAA).

**AWARDS**

* ***2023******International Research Awards on Science, Health and Engineering (SHEN 2023), Best Paper*** Award, "for the Contribution and Honourable Achievement in Innovative Research Given Under Seal of the Company: the paper "Probabilistic Fitts' Law and the Likelihhod of the Tunguska Type of Event", Journal of Space Safety Engineering (JSSE), 10(1), March 2023"; Certificate ID Number: 9603
* ***2022 IEEE SCV Section Outstanding Engineer*** Award "for seminal contributions to several critical IEEE fields, including probabilistic design-for-reliability of microelectronic and photonic materials and systems, and the role of the human factor".
* ***2021 ASME ISPS Distinguished Speaker*** Award “in testimony of the high regard of your associatesvand the deep appreciation of the Society for your valued services in advancing the engineering profession as a 2021 Information Storage and Processing Systems (ISPS) Division Distinguished Speaker for the presentation “Thermal Stress Failures in Electronic and Photonic Packaging: Prediction and Prevention”. Presented at the 2021 ASME ISPS Virtual Conference, June 2-3, 2021
* ***2019 IMAPS Lifetime Achievement*** Award “for making exceptional, visible, and sustained impact on the microelectronics packaging industry in technology, business or both”. Bestowed at the 52nd IMAPS Symp. on Microelectronics, Boston, Mass., Oct.1, 2019.
* ***2019 IEEE EPS Electronic Packaging Field*** Award, “for seminal contributions to mechanical reliability engineering and modeling of electronic and photonic packages and systems.” Bestowed at the IEEE EPS conference, Las Vegas, NV, May 30, 2019<https://eps.ieee.org/awards/ieee-eps-technical-field-award.html>

“With over 40 years of pioneering work in modeling and reliability engineering, Ephraim Suhir has enabled electronic packaging engineers to accurately predict stress in advanced packaged components for the design of more reliable devices. He was one of the earliest researchers to introduce the use of rigorous mechanics principles in electronic systems. His closed-form solutions have provided the electronics industry with invaluable tools for ensuring reliability and cost savings during the design process by eliminating errors early in the design process. He has applied his techniques to advanced components and packaged structures such as microelectronics, photonics, photo-voltaic, and thermo-electronic modules. Every serious mechanics practitioner and researcher in the electronics packaging field has been influenced by Suhir’s groundbreaking contributions”.

* ***2018 IMAPS 51-st Int. Symposium on Microelectronics “best of session”*** Award for the presentation “Elevated stand-off heights of solder joint interconnections of surface mounted IC packages result in an appreciable stress and warpage relief” (co-authored with S. Yi; J. Hwang; and R.Ghaffarian), Pasadena Convention Center, Oct. 8-11, 2018
* ***2017 IMAPS Daniel C. Hughes, Jr. Memorial*** Award, the highest, most prestigious annual honor, awarded to the individual who has the greatest combination of technical achievements related to microelectronics, combined with outstanding contributions supporting the microelectronics industry, academic achievement, or support and service to IMAPS.  Recipients of this award automatically become Life Members and Fellows of the Society. Bestowed at the IMAPS award presentation ceremony at the 50th Int. Symp. on Microelectr., Raleigh, NC, October 10, 2017
* ***2017 IEEE EPS Exceptional Technical Achievement*** ***(ETA)*** Award “for the development of numerous probabilistic design concepts that enable effective and rapid assessment of the probability of failure of electronic products", bestowed at the IEEE ECTC, Lake Buena Vista, Florida (USA), June 1, 2017.
* ***2016 ASME Electronic and Photonic Packaging Division (EPPD) Excellence-in-Mechanics*** Award “to recognize outstanding contributions to the applications of applied and engineering mechanics to the field of electronic packaging and for contributions to professional activities of electronic and photonic packaging division*”,* bestowed at the ASME 2016 Int. Mech. Eng. Congress and Exposition (IMECE), Phoenix, AZ, Nov.16, 2016
* ***2016 ASME* *Santa Clara Valley Section Technical Talk Speaker*** Award “in recognition of your exemplary service and dedication to the highest standards of excellence”; bestowed at the ASME Industry Honors Dinner, Santa Clara, May 05, 2016
* ***2015 AIAA Associate Fellowship***Award **“**forvaluable contributions to the arts, sciences, and technology of aeronautics and astronautics”
* ***2015 ASME* *Santa Clara Valley Section Invited Speaker*** Award “for presenting ASME-SCVS Professional Development Seminars”; bestowed at the ASME Industry Honors Dinner, April 09,
* ***2014 IEEE CPMT Society*** Award “for delivering the short course at the 16-th Electronic Packaging Technology Conference”, December 3-5, Singapore
* ***2014 IEEE CPMT Society*** Award “in appreciation of sustained contribution to the ECTC, 25 Years”
* ***2014 ASME* *Santa Clara Valley Section Invited Speaker*** Award “for presenting ASME-SCVS Professional Development Seminars”; bestowed at the ASME Industry Honors Dinner, April 17
* ***2012 SPIE Fellowship*** Award “for outstanding and pioneering contributions to photonics engineering”
* ***2012 IMAPS Fellowship*** Award “for distinguished contributions to packaging of microelectronic devices”
* ***2012 ASME* *Santa Clara Valley Section Outstanding Achievement*** Award “for outstanding contribution to the engineering community”; bestowed at the ASME Industry Honors Dinner, April 19, 2012
* ***2009 IEEE CPMT Society*** Award “in appreciation of sustained contribution to the ECTC, 10 Years”
* ***2008 Fulbright Scholarship in Information Technologies***, “as pertinent to the materials and structures in; reliability, physical design, packaging, and modeling of; and risk analyses and probabilistic assessments for, the evaluation of the behavior and performance of hardware and devices in information and communication technologies and systems”
* ***2007 IoP, UK, Fellowship*** Award "for outstanding contributions to the field of thermomechanical analysis and reliability physics of microelectronics and photonics systems comprised of dissimilar materials, as well as to the understanding the physics of the dynamic response of such systems to shocks and vibrations".
* ***2004 ASME Worcester Reed Warner Medal*** for “outstanding contributions to the permanent literature of engineering through a series of papers in Mechanical, Microelectronic, and Optoelectronic Engineering, which established a new discipline known as the Structural Analysis of Microelectronic and Photonic Systems”
* ***2004 ASME*** Award “for valued services in advancing engineering education as Member-at-Large of the Professional Development Board”
* ***2002 Laser Focus World***Award for the paper “Analytical Modeling Plays a Crucial Role in Photonics Engineering”, May 2002
* ***2002 APS Fellowship*** Award “for distinguished contributions to the field of analytical modeling of the physical behavior and reliability of microelectronic and photonic materials and systems”.
* ***2001 IMAPS John A. Wagnon Technical Achievement***Award “for outstanding contributions to the technical knowledge of the microelectronics, optoelectronics, and packaging industry by advancing the art and science of predictive modeling in these areas, and laying the foundation of a discipline "Structural Analysis in Microelectronics and Photonics Systems” and for providing leadership in the application of Engineering and Applied Mechanics principles and methods to problems of physical design in microelectronics and photonics”.
* ***2001 ASME*** Award for valued services in advancing the engineering profession as keynote speaker on the topic “The Future of Microelectronics and Photonics, and the Role of Packaging”
* ***2000 IEEE-CPMT Outstanding Sustained Technical Contribution*** Award “for outstanding, sustained and continuing contributions to the technologies in fields encompassed by the CPMT Society, and as a recognition of the pioneering work in Materials and Mechanical Engineering related to microelectronics and fiber-optics structures”
* ***2000 SPE International Engineering/Technology (Fred O. Conley****)* Award “for outstanding pioneering and continuing contributions to plastics engineering”
* ***1999 ASME (National) Charles Russ Richards Memorial*** Award “for outstanding contributions to mechanical engineering”
* ***1998 SPE Fellowship*** Award “for distinguished contributions to the scientific and engineering knowledge related to plastics”
* ***1998 IEEE CPMT Distinguished Lecturer***Award “for teaching successful short courses and tutorials, and presenting invited and key-note talks in the field of Physical (Mechanical) Design and Reliability of Microelectronic and Photonic Systems”
* ***1997 ASME INTERPack’97 General Chair***Award *“*for organizing and conducting the International Conference on Microelectronics and Photonics Packaging, Hawaii, June 15-19”
* ***1996 Bell Labs Distinguished Member of Technical Staff*** Award “for developing engineering mechanics methods to predict the performance and reliability of structures, and in manufacturing Lucent Technologies products”, Bell **Laboratories**
* ***1996 ASME Fellowship*** Award “for outstanding pioneering contributions to several important fields of Applied and Engineering Mechanics, and Materials Science and Engineering”,
* ***1994 IEEE Fellowship*** Award “for contributions to the application of mechanical and reliability engineering to physical design and analysis of microelectronic and fiber optic systems”
* ***1994, 1995, 1996 ASME*** Awards “for valued services in advancing the engineering professionas Member of the Executive Committee and Chairman of the Honors and Awards Committee, ASME, Electrical and Electronic Packaging Division”.
* ***1994 ASME Materials Division*** Award “for valued services in advancing the engineering profession and for presenting the highlight topic lecture "The Future of Microelectronics and Fiber Optics and the Role of Materials and Mechanics''”, International Mechanical Engineering Congress and Exposition
* ***1993 AT&T Bell Laboratories*** ***Merit*** *(****Extraordinary Contribution***) Award for “studies on modeling of stresses in, and optimization of manufacturing of, plastic electronic packages and optical fibers”,
* ***1992 ASME Clock*** Award “for distinguished contributions in the field of the application of Engineering Mechanics to Electronic Packaging, and for co-founding the Journal of Electronic Packaging”
* ***1990 IEEE CPMT Outstanding Paper***Award “for a paper on mechanical design and reliability of ceramic electronic packages, Institute of Electrical and Electronic Engineers”
* ***1986 International Society for Hybrid Microelectronics (ISHM) Best Paper*** Award “for a paper on thermal stresses in adhesively bonded and soldered assemblies,”
* ***1986 AT&T Bell Laboratories*** ***Extraordinary Contribution*** Award “for studies on analytical stress modeling for advanced VLSI packages”
* ***1982 Chesapeake Section of the Society of Naval Architects and Marine Engineers*** Certificant of Appreciation in recognition of the paper being presented before the Chesapeake Section
* ***1979 Lithuanian Ministry of Culture Diploma of the First Degree*** Award (Kulturos Pirmo Laipsnio Diplomas) for taking the first place in the competition of musicians-soloists-instrumentalists (piano)
* ***1978 Lithuanian Ministry of Culture Diploma of the First Degree*** Award (Kulturos Pirmo Laipsnio Diplomas) for taking the first place in the competition of musicians-soloists-instrumentalists (piano)
* ***1974 Russian A.N.Krylov Professional Technical Society of Shipbuilding Industry*** Award"for the best research on experimental investigation of vibrations of Altai-type Trawler structure in the region of the location of the main diesel-generators and their effect on the reliability of the ship equipment and devices"

**SOME UNIVERSITY COURSES TAUGHT**

* Reliability of electronic and photonic materials, Rutgers University, Piscataway, New Jersey, USA, 1987-1990
* Mechanical design, University of Pennsylvania, Philadelphia, USA, 1990-1992
* Basics of Electronics Reliability, UC-Santa Cruz, Santa Cruz, CA, USA, 2002-2012;
* Reliability Physics of Electronic and Optical Materials, Bordeaux University, Bordeaux, France, 2000-2014
* Fundamentals of Optoelectronics and Photonics, UC-Santa Cruz, Santa Cruz, CA, USA, 2003-2004
* Reliability Physics of Electronics and Photonics Materials, Technical University, Vienna, Austria, 1998-2016
* Smart Systems Integration (SSI) Master Course, European Union supported, Budapest University of Technology, October-November 2014
* Fundamentals of Electronics Reliability, UC-Santa Cruz, USA, 2013-2015
* Fundamentals of Electronics and Photonics Systems Reliability, Portland State University, March 2017

SOME LATEST NOTABLE SBIR ERS Co. PROJECTS

**DARPA and Naveair,** Washington, DC, USA, ”Nanomaterial Based Coatings of Optical Fibers”, 2004-2006

**Thales-Alenia,** Toulouse, France, ”Boltzmann-Arrhenius-Zhurkov (BAZ) Model and Its Applications to the Design-for-Reliability of Aerospace Optoelectronic Devices”, 2005-2015

**Thales-Alenia,** Toulouse, France, ”Assuring Reliability of Aerospace Electronics and Photonics”, 2016-2017

**Intel Corp.**, Santa Clara, CA, USA, ”Optimization of Drop Tests of Electronic Systems on the Board Level”, 2005-2014

**IMS Lab.,** Bordeaux University, Talence, France, ”Modeling of the Reliability of Lasers”, 2005-20013

**Nokia Corp**.,Manaus, Brazil, ”Reliability and Advanced Testing Methods for Portable Electronics”, 2006-2007

**AT&S** (Technologie & Systemtechnik Actiengesellschaft), Leoben, Austria, ”Modeling of Thermal Stresses in Embedded Components on the Way to Inustrialization of Power Electronics”, 2009-2015

**Flextronix Corp.,** Milpitas, CA, USA, ”Design for Reliability of Si-Based Photovoltaic Devices”, 2011-2012

**DARPA**, Washington, DC, USA, ”Thermal and Lattice-Mismatch Models for GaN based Power Amlifiers”, 2012-2014

**NASA JPL**, Pasadena, CA, USA, ”Stress Relief in Solder Joints Owing to the Application of Column-Grid-Arrays”, 2014-2015

**NASA JPL**, Pasadena, CA, USA, ”Stress Relief in Solder Joints Owing to the Application of Column-Grid-Arrays: Dynamic Loading”, 2016

**NASA JPL**, Pasadena, CA, USA, ”Remaining Useful Life (RUL) for Solder Joint Interconnections”, 2016

**NASA JPL**, Pasadena, CA, USA, ”Low Temperature - Random Vibration Testing Bias”, 2016-2017

**NASA JPL,** Pasadena, CA, USA, ”Flip-Chip Underfill: Role, Behavior, Performance”, 2018-2022

**EDITORIAL BOARD MEMBER**

Academics Journal of Physics & Optics Science (2021-); Acta Scientific Applied Physics Journal (2021-); Advances in Materials Science and Engineering (AMSE) (2019-); Advances in Theoretical and Computational Physics (2020-); Aeronautics and Aerospace Open Access Journal (2023-); Amadeus Materials Genome Engineering (2021-); Aerospace Journal (2014-); American Research Journals, Inc. (2017-); Annals of Materials Science (2020-); Archives of Advanced Engineering Science (AAES) - Singapore (2023-); Archives of Clinical Case Reports (2021-); Bronto Library of Earth Science (2020-);Chinese Optical Letters (2014-2019); Current Research in Applied Physics (2019-); Discover Materials (2020-); Current Trends in Engineering Science (2024-); Electrical Engineering Archives (2019-); Ergonomics International Journal (2023-); European Journal of Engineering Research and Science (EJERS) (2019-); European Journal of Engineering and Technology Research (EJETR) (2022-); Frontiers in Engineering and Technology (2019-); Hindawi Journal of Electrical and Computer Engineering (2012-); [Human-Intelligent Systems Integration](https://www.springer.com/journal/42454/) (Journal) (2022-); IEEE CPMT Transactions (1994-); Int. Journal of Astronautics and Aeronautical Engineering (2023-); Int. Journal of Aeronautics and Aerospace Engineering (ISSN) (2021-); Int.Journal of Aeronautical Science & Aerospace Research (IJASAR) (2017-); Int. Journal of Advanced Research in Physical Science (2019-); [Int. Journal of Engineering Research and Science (IJOER)](https://search.aol.com/click/_ylt=Awr9DuYDGUNg2XAA8ItpCWVH;_ylu=Y29sbwNncTEEcG9zAzMEdnRpZAMEc2VjA3Ny/RV=2/RE=1615038851/RO=10/RU=https%3a%2f%2fwww.neliti.com%2fjournals%2fijoer/RK=0/RS=KX8xMVrhD4Ake4iUOLbhVODgR0Y-) (2021-); Int. Journal of Human Factors Modeling and Simulation (IJHFMS) (2017-2020); Int. Journal of Electronics and Device Physics (2019-); Int. Journal of Emerging Technology & Advanced Engineering (2020-); Int. Journal of Physics Research and Applications (2019-); Int. Journal of Theoretical and Computational Physics (2019-); Inventions and Innovations in Electrical and Electronics Engineering (IIEEE) (2018-); Journal of Advanced Materials Science and Engineering (2021-); Journal of Advanced Mathematics and Applications (2019-); Journal of Advances in Applied & Computational Mathematics (2020-); Journal of Aerospace Engineering and Mechanics (JAEM) (2018-); Journal of Electrical and Computer Engineering (2012-); Journal of Electrical Electronics Engineering (JEEE)(2022-); Journal of Electronics and Communications (JEC) (2020-);Journal of Electronics and Sensors (JES) (2020-); Journal of Electrical and Electronic Systems (JEES) (2019-); Journal of Engineering and Applied Sciences Technology (2020-); Journal of Ergonomics Research (2021-); Journal of Experimental and Applied Mechanics (JEAM) (2019-); Journal of Human-Intelligent Systems Integration (2022-); Journal of Materials Research: Electronic Materials (2017-2021); Journal of Materials Sciences and Applications (2021-);Journal of Materials Science and Engineering (2022*-);* Journal of Material Sciences & Manufacturing Research (2020-); Journal of Mineral, Metal and Material Engineering (2020-); Journal of Modern and Applied Physics (2023-); Journal of Modern Mechanical Engineering and Technology (2019-); Journal of Physical Mathematics (2012-); Journal of Physics and Astronomy (2021-); Journal of Physics and Optics Sciences (2020-); International Journal of Current Research in Science, Engineering & Technology (2023-);Materials Genome Engineering (MGE) (2020-); Nessa Journal of Mathematics (2020-); Open Access Journal of Astronomy (2024-); Physical Science & Biophysics Journal (2019-); Research Journal of Optics and Photonics (2023-); Scientific Journal of Research & Reviews (SJRR) (2019-); Universal Journal of Lasers, Optics, Photonics and Sensors (UJLOPS) (2020-); World Journal of Mechanics (WJM) (2021-);

**SERVICE**

**Editor-in-Chief:** ASME Journal of Electronic Packaging (1994-2002); Springer’s book series on physics, mechanics and reliability of materials in micro- and opto-electronics (2006-); Silicon Valley Engineering Council (SVEC) Journal (2010);

**Co-founder** (1985) and **Senior Associate Editor**, ASME Journal of Electronic Packaging (1989-1994);

**Contributing Editor*:*** Chip Scale Reviews (2013-2023);

**Distinguished Lecturer**, IEEE Electronic Packaging Society (1995-);

**Committee Member**: IEEE EDS Device Reliability Physics Committee (2019-); ASME AMD/MD Technical Committee on Constitutive Equations (2017-);IEEE TAB New Technology Directions Committee (1999-2007); ASME General Awards Committee (2007-2015); IEEE CPMTS Fellowship Evaluation Committee (2001-) and Award Committee (2002-2017); IEEE VTS Fellowship Committee (2011-2015); ASME Boards on Professional Developments, and on Research and Technology (2000-2004); Advisory Committee, ASME Press, Monograph/Proceedings Series on "Materials, Molding, and Computation" (1992-2002); Society of Automotive Engineers (SAE), Committees on Fiber Optics and Avionic Engineering (2004-); Board of Governors, IEEE EPS (1996-2012); Team of experts serving AT&T, Lucent Technologies, and Bell Labs R&D communities in Applied Mechanics, Applied Physics, Mechanical Behavior of Materials, Manufacturing Engineering, Mechanical and Reliability Engineering, and Applied Probability (1990-2001);

**Chairman:**IEEE Group on Portable Information Devices; IEEE TAB New Technologies Direction Committee (2005-2007);IEEE VTS TC on Portable Devices (2007-2009); Honors and Awards Committee, ASME Electrical and Electronic Packaging Division and K-16 Committee (Heat Transfer in Microelectronics) of the Heat Transfer Division (1991-2000); New Technology Directions Committee, IEEE CPMT Society (1998-2002);

**General Chair/ Co-Chair:** IEEE CPMT ASTR Conferences, San-Francisco, CA, September 2011; College Park, MD, October 2008;IEEE Conference on Portable Information Devices, Portable’09, Anchorage, AK, September 2009; IEEE/ASME/IMAPS Workshops on Reliability of Polymeric Materials and Plastic Packages of IC Devices, Paris, 1998, 1999, London, 2000; International Conference on Electronic and Photonic Packaging (Interpack-97), Hawaii, 1997; ASME Winter Annual Meetings, Division of Electrical and Electronic Packaging, Symposia on Structural Analysis in Electronic and Fiber-Optic Systems (1987-2001);IEEE Conference on Portable Devices and Polymeric Materials for Electronic and Photonic Applications, Garmisch-Partenkirchen, Germany, August 2008; IEEE Conference on Portable Information Devices, Portable’07, Orlando, Florida, March 2007; Accelerated Stress Testing and Reliability (ASTR) Workshop, ASTR’07, College Park, MD, October 2007; Track on Thermal Phenomena in Electronic Systems, IEEE Vehicular Power and Propulsion Conference (VPPC), Dearborn, MI, USA, Sept. 2009; Chicago, IL, USA, Sept. 2011;

**Symposium Organizer/Co-Organizer**: MRS Annual Meetings, Symposium on Mechanical Behavior of Microelectronic Materials and Structures (Boston,1990); Symposium on Reliability of Photonics Materials and Structures (San-Francisco, 1998); Symposium on Optical Interconnects (San Francisco, 2012); Symposium on Constitutive Modeling of the Mechanical Behavior and Performance of Electronic, Photonic, MEMS, and NEMS Materials, Assemblies, Packages, Modules, and Systems, 2018, Nov.9-15, Pittsburgh, PA,USA; Symposium on Reliability of Electronic and Photonic Packages, 2020, Nov.12,13, Silicon Valley, CA, USA

**Organizing/Scientific/Steering Committee Member:** International Conference on Materials, Processing and Product Engineering, MPPE, Austria (2015-); IEEE Workshop on Reliability of Polymeric Materials and Plastic Packages of IC Devices, POLYTRONIK’ 2001, Potsdam, Germany; 2002, Budapest, Hungary; 2003, Monreaux, France; 2004, Portland, OR, USA; 2005, Wroclaw, Poland; THERMINIC, European workshop on thermal phenomena in micro- and opto-electronic (1988-2014);IEEE Annual Electronic Components and Technology Conferences, Electronic Packaging, Interconnection, and Reliability Committees (1988-2016);International Conferences on Electronic Packaging (San Jose, CA, 1990, Binghamton, NY, 1992, Hawaii, 1995, 1999);

**Session Organizer and Co-Chair**: IEEE Aerospace Conference, Big Sky, Montana, 2012-2016.

PUBLICATIONS (after arriving to the USA in 1980; available upon request)

500+ publications: patents, books, book chapters, papers in archival journals in edited conference proceedings; articles in trade magazines; numerous invited, keynote, plenary and contributed presentations at conferences, symposia, technical meetings and workshops, as well as short (professional development) courses and tutorials worldwide.

***Ten Most Cited Publications***

* "Stresses in bi-metal thermostats",Journal of Applied Mechanics **(1986): 623** Citations
* "New approach to the high quality epitaxial growth of lattice‐mismatched materials" (co-authored withS.Luryi), Applied Physics Letters **(1986): 463** Citations
* "Interfacial stresses in bi-metal thermostats"**,** Journal of Applied Mechanics **(1989): 414** Citations
* "An approximate analysis of stresses in multilayered elastic thin films",Journal of Applied Mechanics **(1988:) 258** Citations
* "Applied probability for engineers and scientists" (co-authored with A. J. Rafanelli), Journal of Electronic Packaging **(1997): 190** Citations
* "Calculated thermally induced stresses in adhesively bonded and soldered assemblies", Proc. of the Int. Symp. on Microelectronics **(1986): 156** Citations
* "Thermal properties of carbon nanotube array used for integrated circuit cooling" (co-authoed with Yuan Xu; Yi Zhang; Xinwei Wang), Journal of Applied Physics **(2006): 144** Citations
* "Analysis of interfacial thermal stresses in a trimaterial assembly"**,** Journal of Applied Physics **(2001): 114** Citations
* "Mechanical approach to the evaluation of the low temperature threshold of added transmission losses in single-coated optical fibers"**,** Journal of Lightwave Technology **(1990): 107** Citations
* *Micro- and opto-electronic materials and structures : physics, mechanics, design, reliability, packaging***(**co-authored withY-C. Lee and C-P. Wong), **(2007): 100** Citations

***Patents***

1. C. Dangelo, E. Suhir, S. Dey, B. Wacker, Y. Xu, A. Boren, D. Olsen, Y. Zhang, P. Schwartz; B. Padmakumar, “Carbon Nanotube-Based Structures and Methods for Removing Heat From Solid-State Devices”, US Patent #8,080,871, 2011
2. E. Suhir, Y. Xu, Y. Zhang, “ Method and Apparatus for Evaluation and Improvement of Mechanical and Thermal Properties of CNT/CNF Arrays”, US Patent # 8,048,688, 2011
3. E. Suhir, R. L. Kroeze, P. Schwartz, K. S. Ravindhran, “Composite Carbon Nanotube-Based Structures and Methods for Removing Heat from Solid-State Devices”, US Patent #8,039,961, 2011
4. E. Suhir, “Apparatus for Attaching a Cooling Structure to an Integrated Circuit”, US Patent #7,477,527, 2009
5. D. Ingman, V. Ogenko, E. Suhir, A. Glista, “Moisture Resistant Nano-Particle Material and Its Applications”, US Patent #7,321,714B2, 2008
6. E. Suhir, “Apparatus and Test Device for the Application and Measurement of Prescribed, Predicted and Controlled Contact Pressure on Wires”, US Patent #7,279,916, 2007
7. D. Ingman and E.Suhir, “Optical Fiber with Nano-Particle Overclad”, US Patent, #7,162,138 B2, 2007
8. D. Ingman and E.Suhir, “Optical Fiber with Nano-Particle Cladding”, US Patent, #7,162,137 B2, 2007
9. E. Suhir, “Coated Optical Glass Fiber”, US Patent #6,647,195, 2003.
10. E.Suhir, “Optical Fiber Interconnects Having Offset Ends with Reduced Tensile Strength and Fabrication Method”, US Patent #6,606,434, 2003
11. E. Suhir, “Bi-Material Assembly Adhesively Bonded at the Ends and Fabrication Method”, US Patent #6,460, 753, 2002
12. E. Suhir, “Strain Free Planar Optical Waveguides”, US Patent #6,389,209, 2002
13. E.Suhir, “Apparatus and Method for Thermostatic Compensation of Temperature Sensitive Devices”, US Patent #6,337,932, 2002
14. E.Suhir, “Method of Improving the Performance of Optical Fiber, which is Interconnected Between Two Misaligned Supports”, U.S. Patent #6,314,218, 2001
15. E. Suhir, “Interconnected Optical Devices Having Enhanced Reliability”, U.S. Patent #6,327,411, 2001
16. E. Suhir, “Arrangement for Reducing Bending Stress in an Electronics Package”, U.S. Patent #6,180,241, 2001
17. E. Suhir, “Device and Method of Controlling the Bowing of a Soldered or Adhesively Bonded Assembly,” US Patent #6,239,382, 2001.
18. E. Suhir, “Method for Determining and Optimizing the Curvature of a Glass Fiber for Reducing Fiber Stress”, US Patent #6,016,377, 2000
19. E. Suhir, "Electronic Assembly Having Improved Resistance to Delamination", U.S. Patent #6,028,772, 2000
20. E. Suhir, “Method and Apparatus for Proof-testing Optical Fibers”, US Patent #6,119,527, 1998
21. E. Suhir, “Data Carriers Having an Integrated Circuit Unit”, US Patent #5,703,350, 1997
22. E. Suhir and J. Weld, “Electronic Package with Reduced Bending Stress”, US Patent #5,627,407, 1997.
23. E. Suhir et al, “Pattern For Tube Bending”, Certificate of Authorship #487692, Official Bulletin of Inventions and Discoveries, State Committee for Inventions and Discoveries, No. 38, Moscow, Russia, 1975.

***Books***

*Monographs and/or co-authored books*

1. E. Suhir, *Mechanical Behavior of Electronic Materials and Systems*, 2023, Springer, Sept. 8, 2017 (in preparation)
2. E.Suhir, *Analytical Modeling in Electronics and Photonics Reliability Problems*, CRC Press (in preparation), 2022
3. E.Suhir, *Avoiding Inelastic Strain in Solder Material of IC Devices*, CRC Press, 2021
4. E. Suhir, *Human-in-the-Loop: Probabilistic Modeling of an Aerospace Mission Outcome*, CRC Press, 2019
5. X. Fan, E. Suhir, *Moisture Sensitive Plastic Packages of IC Devices*, Springer, 2010
6. E. Suhir, *Applied Probability for Engineers and Scientists*, McGraw Hill, New York, 1997.
7. E. Suhir, *Structural Analysis in Microelectronic and Fiber Optic Systems”, vol.1, Basic Principles of Engineering Elasticity and Fundamentals of Structural Analysis*, Van Nostrand Reinhold, New York, 1991.
8. E. Suhir and P. McSharry, [*Soviet Naval Architecture: Theory and Applications of Hydrodynamics (Trans from Russian)*](http://www.amazon.com/Soviet-Architecture-Applications-Hydrodynamics-Russian/dp/1558310479/ref=sr_1_10?ie=UTF8&s=books&qid=1264427672&sr=1-10), American Bureau of Shipping, 1986
9. E. Suhir, Y. Raskin, A. Tunik, [*Russian Strength Standards for Commercial Ships*](http://www.amazon.com/Russian-strength-standards-commercial-ships/dp/B0007AVMMI/ref=sr_1_12?ie=UTF8&s=books&qid=1264427672&sr=1-12), American Bureau of Shipping, New York, 1982
10. E.Suhir, *Probabilistic Methods in Structural Analysis and Vibration of Ships* («Вероятностные Методы в Строительной Механике и Вибрации Корабля»), Institute of Naval Architecture, Nikolayev, Ukraine 1974 (in Russian).

*Edited and/or co-edited books*

1. E. Suhir, D. Steinberg, T. Yi, eds., *Dynamic Response of Electronic and Photonic Systems to Shocks and Vibrations*, John Wiley, 2011
2. E. Suhir, CP Wong, YC Lee, eds. *Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Packaging, Reliability*, 2 volumes, Springer, 2008
3. R. G. Driessen, J. G. Baets, J. G. McInerney, and E. Suhir, eds., [*Laser Diodes, Optoelectronic Devices, and Heterogeneous Integration*, SPIE,](http://www.amazon.com/Optoelectronic-Devices-Heterogenous-Integration-Proceedings/dp/0819447420/ref=sr_1_7?ie=UTF8&s=books&qid=1264427672&sr=1-7) 2003
4. E. Suhir, M. Fukuda, C. R. Kurkjian, eds., *Reliability of Photonic Materials and Structures*, Materials Research Society Symposia Proceedings, vol. 531, 1998.
5. E. Suhir, ed., *Structural Analysis in Microelectronics and Fiber Optics*, ASME Press, 1997
6. E. Suhir, ed., *Structural Analysis in Microelectronics and Fiber Optics*, ASME Press, 1996
7. E. Suhir, ed., *Structural Analysis in Microelectronics and Fiber Optics*, ASME Press, 1995
8. M. Schen, H. Abe, and E. Suhir, eds. “Thermal and Mechanical Behavior and Modeling”, ASME, AMD-Vol,1994
9. E. Suhir, R.C. Cammarata, D.D.L. Chung, M.Jono, eds. *Mechanical Behavior of Materials and Structures in Microelectronics*, Materials Research Society Symposia Proceedings, vol.226, 1991.

***Book chapters***

1. E.Suhir and G.Paul, "Probabilistic Human-System-Integration (HSI) Models: Review and Extension", In book: Proceedings of the 21st Congress of the International Ergonomics Association (IEA 2021), January 2022
2. E.Suhir, “Quantifying Unquantifiable in Vehicular Ergonomics”, Advances in Simulation and Digital Human Modeling, AHFE 2021
3. E. Suhir, S. Scataglini and G.Paul, “Extraordinary Automated Driving Situations: Probabilistic Analytical Modeling of Human-Systems-Integration (HSI) and the Role of Trust”, in: Cassenti D., Scataglini S., Rajulu S., Wright J. (eds) Advances in Simulation and Digital Human Modeling. AHFE 2020. Advances in Intelligent Systems and Computing, vol 1206. Springer, Cham. 2021
4. E.Suhir, “Probabilistic Reliability-Physics Models in Aerospace Human-in-the-Loop (HITL) Problems”, Chapter 36, DHM and Posturography, Academic Press, 2019
5. E.Suhir, “Mechanical Behavior of Optical Fibers and Interconnects: Application of Analytical Mechanics”, Encyclopedia of Continuum Mechanics, H.Altenbach, ed., 2019
6. E.Suhir, “Design for Reliability of Electronic Materials and Systems”, Encyclopedia of Continuum Mechanics, H.Altenbach, ed., 2019
7. E.Suhir, “Application of Analytical Modeling in the Design for Reliability of Electronic Packages and Systems”, Springer Encyclopedia of Continuum Mechanics, H.Altenbach and A.Oechsner, eds., published on line, 2019
8. E. Suhir, “Mental Workload (MWL) vs. Human Capacity Factor (HCF): A Way to Quantify Human Performance”: in Gregory and Inna Bedny, eds., CRC Press, “Applied and Systemic-Structural Activity Theory”, 2019
9. E. Suhir, “Predicted Thermal and Lattice-Mismatch Stresses”, in T. Nishinaga and T.F.Kuech, eds., “Handbook of Crystal Growth”, 2e, vol.3, , Elsevier, 2015
10. E. Suhir, "Analysis of a Pre-Stressed Bi-Material Accelerated Life Test (ALT) Specimen", Encyclopedia of Thermal Stresses, R. Hetnarski, ed., Springer, 2013
11. E. Suhir, "Thermal Stress in a Multi-Leg Thermoelectric Module (TEM) Design", Ibid.
12. E. Suhir, "Thermal Stress in a Tri-Materilal Assembly with Application to Silicon-Based Photovoltaic Module (PVM)", Ibid.
13. E. Suhir, "Thermo-Elastic Stability of an Embedded Nano-Fiber", Ibid.
14. E. Suhir, “Linear Response to Shocks and Vibrations”, in E. Suhir, D. Steinberg and T. Yu, “Structural Dynamics of Electronic and Photonic Systems”, John Wiley, Hoboken, NJ., 2011
15. E. Suhir, “Linear and Nonlinear Vibrations Caused by Periodic Impulses”. Structural Dynamics of Electronic and Photonic Systems”, John Wiley, Hoboken, NJ., 2011
16. E. Suhir, “Random Vibrations of Structural Elements in Electronic and Photonic Systems”, Structural Dynamics of Electronic and Photonic Systems”, John Wiley, Hoboken, NJ., 2011
17. C.Y.Zhou, T.X.Yu, S.W.Ricky Lee and E.Suhir, “Shock Test Methods and Test Standards for Portable Electronic Devices”, Structural Dynamics of Electronic and Photonic Systems”, John Wiley, Hoboken, NJ., 2011
18. E. Suhir, “Shock Protection of Portable Electronic Devices Using a “Cushion” of an Array of Wires (AOW)”, John Wiley, Hoboken, NJ., 2011
19. M. Vujosevic and E.Suhir, “Dynamic Response of PCB Structures to Shock Loading in Reliability Tests”, John Wiley, Hoboken, NJ., 2011
20. E. Suhir, “Linear Response of a Single-Degree-of-Freedom System to an Impact Load: Could Shock Tests Adequately Mimic Drop Test Conditions?”, John Wiley, Hoboken, NJ., 2011
21. E. Suhir and L. Arruda, “Could an Impact Load of Finite Duration Be Substituted with an Instantaneous Impulse”? John Wiley, Hoboken, NJ., 2011
22. E. Suhir, “”Stretchable” Electronics: Predicted Thermo-Mechanical Stresses in the Die”, Fraunhofer Institute, Volume Dedicated to the 60-th Birthday of Prof. B. Michel, Berlin, Germany, 2009
23. Y. Zhang, E. Suhir, C. Gu, “Physical Properties and Mechanical Behavior of Carbon Nano-tubes (CNTs) and Carbon Nano-fibers (CNFs) as Thermal Interface Materials (TIMs) for High Power Integrated Circuit (IC) Packages: Review and Extension, in C.P.Wong et al, eds, “Nano-Bio-Electronic, Photonic and MEMS Packaging”, Springer, 2009
24. E. Suhir, “Fiber-Optics Structural Mechanics and Nano-Technology Based New Generation of Fiber Coatings: Review and Extension”, in E. Suhir, CP Wong, YC Lee, eds. “Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Packaging, Reliability”, 2 volumes, Springer, 2008
25. E. Suhir, “Dynamic Response of Micro-Electronic Systems to Shocks and Vibrations: Review and Extension”, in E. Suhir, CP Wong, YC Lee, eds. “Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Packaging, Reliability”, 2 volumes, Springer, 2008
26. V. Birman and E. Suhir, “Effect of Material’s Nonlinearity on the Mechanical Response of Some Piezo-Electric and Photonic Systems”, “Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Packaging, Reliability”, 2 volumes, Springer, 2008
27. E. Suhir, “Analytical Thermal Stress Modeling in Physical Design for Reliability of Micro- and Opto-Electronic Systems: Role, Attributes, Challenges, Results”, “Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Packaging, Reliability”, 2 volumes, Springer, 2008
28. E. Suhir, “How to Make a Device into a Product: Accelerated Life Testing It’s Role, Attributes, Challenges, Pirfalls, and Interaction with Qualification Testing”, “Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Packaging, Reliability”, 2 volumes, Springer, 2008
29. E. Suhir, D. Ingman, “Highly Compliant Bonding Material and Structure for Micro- and Opto-Electronic Applications”, “Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Packaging, Reliability”, 2 volumes, Springer, 2008
30. D. Ingman, T. Mirer, E. Suhir, "Dynamic Physical Reliability in Application to Photonic Materials". In: Suhir E., Lee Y.C., Wong C.P. (eds) Micro- and Opto-Electronic Materials and Structures: Physics, Mechanics, Design, Reliability, Packaging. Springer, 2008
31. E. Suhir, “Effect of Plastic Package Geometry on its Propensity to Moisture Induced Failure”, in R. Tummala, M. Kosec, W. Kinzy Jones and D. Belavic, eds., “Electronic Packaging for High Reliability: Low Cost Electronics”, NATO ASI Series, 3. “High Technology”, vol.57, Kluwer Academic Publishers, 1999.
32. E. Suhir, “Structural Analysis in Fiber Optics”, in J. Menon, ed., “Trends in Lightwave Technology”, Council of Scientific Information, India, 1995.
33. E. Suhir, “Predicted Bow of Plastic Packages of Integrated Circuit Devices”, in J. H. Lau, ed., Thermal Stress and Strain in Microelectronic Packaging”, Van Nostrand Reinhold, New York, 1993.
34. E. Suhir and Y.C. Lee, “Thermal, Mechanical and Environmental Durability Design Methodologies in Electronic Packaging”, in “Handbook of Electronic Materials”, ASM International, 1990.
35. E. Suhir, “Thermal Stress Failures in Microelectronic Components - Review and Extension”, in A. Bar-Cohen and A. D. Kraus, eds., “Advances in Thermal Modeling of Electronic Components and Systems”, Hemisphere, New York, 1988.

***Archival (technical journal) papers***

**2024**

1. E. Suhir and J.-M.Salotti, "Anticipation Problems in Avionic Psychology: Application of Delphi Method (DM)", in preparation
2. E.Suhir, " Two Critical Space-Safety Problems: Application of Mathematical Analogies", in preparation
3. E.Suhir, "The Outcome of Healthcare and Clinical Undertakings Must Be Quantified to Assure Success: Perspective and Extension", in preparation
4. E.Suhir, "Human-in-the-Loop: Space Safety Missions", in preparation
5. E.Suhir, " A Tale of Three Types of Failure-Oriented-Accelerated-Tests and Their Roles in Assuring Aerospace Electronics and Photonics Reliability: Perspective", Journal of Space Safety Engineering, in review
6. E.Suhir, "The Double-Exponential-Probability-Distribution-Function and Its Applications In Reliability-Physics, Ergonomics-Science and Aerospace-Safety Problems: Perspective", Journal of Space Safety Engineering, in review
7. E. Suhir, "Probabilistic Design-for-Reliability Concept Changes the State-of-the-Art in Microelectronics and Photonics Engineering", Editorial, Medicon Engineering Themes, 6(2), Feb. 2024

**2023**

1. E..Suhir, "Probabilistic Design for Reliability Concept in Reliability Physics of Electronics and Photonics Systems", Editorial, AS Appl.Physics Journal, July 2023
2. [R. Gupta](https://pubs.rsc.org/en/results?searchtext=Author%3ARajeev%20Gupta), [R. Singh](https://pubs.rsc.org/en/results?searchtext=Author%3ARajesh%20Singh), [A.Gehlot](https://pubs.rsc.org/en/results?searchtext=Author%3AAnita%20Gehlot), [S.V.Akram](https://pubs.rsc.org/en/results?searchtext=Author%3AShaik%20Vaseem%20Akram),  [N.Yadav](https://pubs.rsc.org/en/results?searchtext=Author%3ANeha%20Yadav),   [R. Brajpuriya](https://pubs.rsc.org/en/results?searchtext=Author%3ARanjeet%20Brajpuriya),[A. Yadav](https://pubs.rsc.org/en/results?searchtext=Author%3AAshish%20Yadav),  [Y. Wu](https://pubs.rsc.org/en/results?searchtext=Author%3AYongling%20Wu),  [H. Zheng](https://pubs.rsc.org/en/results?searchtext=Author%3AHongyu%20Zheng),  [A. Biswas](https://pubs.rsc.org/en/results?searchtext=Author%3AAbhijit%20Biswas), [E. Suhir](https://pubs.rsc.org/en/results?searchtext=Author%3AEphraim%20Suhir), [V.S.Yadav](https://pubs.rsc.org/en/results?searchtext=Author%3AVikram%20Singh%20Yadav), [T.Kumar](https://pubs.rsc.org/en/results?searchtext=Author%3ATanuj%20Kumar)*,* and  [A.S. Verma](https://pubs.rsc.org/en/results?searchtext=Author%3AAjay%20Singh%20Verma), "Silicon Photonics Interfaced with Microelectronics for Integrated Photonic Quantum Technologies: A New Era in Advanced Quantum Computers and Quantum Communications?", Nanoscale, 10, 2023
3. E.Suhir, "Is Temperature Cycling an Adequate Accelerated Test in Reliability Physics of IC Products?", Acta Scientific Applied Physics, Editorial, July 2023
4. E. Suhir, "Analytical Modeling of Electronic and Photonic Materials Reliability: Perspective and Extension", ASME Journal of Engineering Mechanics and Technology (JEMT), v.145, July 2023
5. E. Suhir, "Analytical Modeling Occupies a Special Place in Reliability-Physics", Acta Scientific Applied Physics, Editorial, June 2023
6. E.Suhir and I.Bedny, "Probabilistic Predictive Modeling in Some Critical Human-in-the-Loop (HITL) Ergonomics Problems: Role, Significance, Attributes, Challenges", Applied Human Factors and Ergonomics (AHFE) conference, San-Francisco, CA, USA, 2023
7. E Suhir, “Failure Oriented Accelerated Testing and its Role in Understanding and Assuring Reliability of Electronic and Photonic Products". Editorial, Acta Scientific Applied Physics, 3(6), June 2023.
8. E.Suhir, "Low Cycle Fatigue in Solder Joint Interconnections of IC Devices: Could It Be Avoided?", Editorial, Applied Physics, 2023
9. E.Suhir, "Failure-Oriented-Accelerated-Testing (FOAT) and Its Role in Assuring Electronics Reliability: Review",

Int.Journal of Physics Research and Applications, 6(1), 2023

1. E Suhir, “Boltzmann-Arrhenius-Zhurkov (BAZ) Constitutive Equation Enables Quantifying Reliability Physics in Electronics Engineering". Editorial, Acta Scientific Applied Physics, 3(4), April, 2023
2. E.Suhir, "Probabilistic Fitts' Law and the Likelihood of the Tunguska Type of Event", Journal of Space Safety Engineering (JSSE), 10(1), March 2023

**2022**

1. E.Suhir, "Electronic Packaging Reliability Physics, and the Role of Failure-Oriented-Accelerated-Testing", Acta Scientific Applied Physics, Short Communication, 2(12), 2022
2. E.Suhir, "Avoiding Inelastic Strains in Solder Joint Interconnections of Space Electronics", Zeitschrift fur Angewandte Mathematiks und Mechaniks (ZAMM), Dec. 2022
3. E. Suhir, "Understanding the Reliability Physics of Electronic and Photonic Products: Roles of Failure-Oriented-Accelerated-Tests (FOATs)", Editorial, Acta Scientific Applied Physics, 2 (1), Dec. 2022
4. E.Suhir, "**Probabilistic Fitts' Law with Application to the Likelihood of a Spacecraft Collision with an Asteroid", AIAA Journal of Information Science, 19 (10), 2022**
5. E.Suhir, “Spacecraft Electronics: Useful-Lifetime vs. Probability-of-Failure”, Research & Reviews Journal of Modern Physics, 1, 2022
6. E.Suhir and I. Bedny, "Surgeon’s Performance: Analogy with Aircraft Pilot’s Challenges", Paper #242, Conf. Proceedings Book, Applied Human Factors and Ergonomics (AHFE), 2022
7. **E.Suhir, "Predicted Low-Cycle Fatigue Lifetime of Solder Joint Interconnections: Application of Hall's Approach and Boltzmann-Arrhenius-Zhurkov (BAZ) Model",** Journal of Aerospace Engineering and Mechanics (JAEM), vol.6, issue 1, 2022
8. E. Suhir, “How Accurate Should Sight Distance Measurements Be?”**,** Theoretical Issues in Ergonomics Science, 23 (3), Aug. 2022
9. **E.Suhir, "Expected Lifetime of an Optical Silica Fiber Intended for Open Space Applications: Probabilistic Predictive Model", Acta Astronautica, vol. 192, March 2022**
10. E. Suhir, “Predictive Modeling Sheds Light on Burn-in Testing (BIT) of IC Devices: Brief Review and Recent Extension”,Microelectronics Reliability, vol. 128, 2022
11. E. Suhir, "Quantifying Surgeon’s Performance: Probabilistic Approach", British Journal of Surgery, 109(5), May 2022
12. E.Suhir, “Driver Propensity to Fatigue and Drowsiness: Probabilistic Approach”, Theoretical Issues in Ergonomics Science, vol.23, 2022

**2021**

1. **E.Suhir, "Picking the Right Surgeon: Quantitative Approach", Global Journal of Medical and Clinical Case Reports (GJMCCR), 8(3), Dec. 2021**
2. E.Suhir, "Physics of Failure of an Electronics Product Must Be Quantified to Assure the Product's Reliability", Editorial, Acta Scientific Applied Physics, 2(1), Dec.2021
3. E.Suhir, W. Karwowski, and I. Bedny, “Some Major Human Issues in Aerospace Engineeribg: Review and Extension”, Paper #154, 2021 International Ergonomics Associate Triennial (IEA) Conference, Vancouver, CA, June 13-18, Track on Aerospace Human Modeling and Simulation, Guy-Andre Boy, Chair, 21st Congress of the International Ergonomics Association (IEA 2021), Nancy L. Black, W. Patrick Neumann & Ian Noy, Editors. Lecture Notes in Networks and Systems. Vol. III: Sector Based Ergonomics, Springer.
4. E.Suhir and G.Paul, “Probabilistic HSI Models”, Paper #134, 2021 International Ergonomics Associate Triennial (IEA) Conference, Vancouver, CA, June 13-18, Track on Transport Ergonomics and Human Factor, 2021, in print
5. E.Suhir, “Brake Power Required to Avoid Vehicular Obstruction with a Steadfast Obstacle: A Probabilistic Approach”, Journal of Pure and Applied Mathematics, 5(4), 2021
6. E.Suhir, “Braking Power Required for Safe Landing: Probabilistic Approach”, Acta Astronautica, v.188, July 2021
7. E.Suhir, “Figure-of-Merit for a Long-Term Survivorship of a Species Determined From the Short-Term Mortality Rate of Its Individual Organisms”, Biophysical Reviews and Letters, 16 (3), 2021
8. E.Suhir, “Medical Undertakings Should Be Quantified to Be Improved”, Journal of Electronics and Sensors, 3(5), May 2021
9. E.Suhir, “When Instrumentation and Human Performance Contribute Jointly to the Outcome of a Human-System-Integration (HIS) Mission: Brief Review”, Paper #150, 2021 International Ergonomics Associate Triennial (IEA) Conference, Vancouver, CA, June 13-18, Track on System Human Factor and Ergonomics, Paul Salmon, chair, vol. 219, Lecture Notes in Networks and Systems series, April 10, 2021
10. E.Suhir, “Medical Undertakings Should Be Quantified to Have A Potential to Be Improved”, Journal of Electronics and Sensors, Mini Reviews, 4(1), March 2021
11. E.Suhir, “Landing on Mars: Probabilistic Modeling Enables Quantifying the Last “Six Minutes of Terror”, Acta Astronautica, vol.179, Feb. 2021
12. E.Suhir “Inhomogeneous Bonding in Low-Temperature-Soldering: Brief Review", Journal of Electronics and Sensors, 4(1), 2021
13. E.Suhir, “Astronaut's Performance vs. His/Hers Human-Capacity-Factor and State-of-Health: Application of Double-Exponential-Probability-Distribution Function”, [Acta Astronautica](https://www.sciencedirect.com/science/journal/00945765), [Vol.HYPERLINK "https://www.sciencedirect.com/science/journal/00945765/178/supp/C" 178](https://www.sciencedirect.com/science/journal/00945765/178/supp/C), Jan. 2021

**2020**

1. E. Suhir, “Quantifying Unquantifiable: the Outcome of a Clinical Case Must Be Quantified to Make it Successful”, Global Journal of Medical and Clinical Case Reports: published on line, Dec.29, 2020
2. E.Suhir, “Predicted Accelerations of Surface-Mounted Electron Devices During Spacecraft Launch”, Journal of Aerospace and Mechanics (JAEM), 4(2), Oct. 2020
3. E.Suhir, “Making a Viable Electron Device into a Reliable Product: Brief Review”, Brief Note, Journal of Electronics & Communications, 1(5), Oct. 2020
4. E.Suhir, “Risk-Analysis in Aerospace Human-Factor-Related Tasks: Review and Extension”, Journal of Aerospace Engineering and Mechanics (JAEM), 4(2), Nov. 2020
5. E.Suhir, “Head-on Railway Obstruction: A Probabilistic Model”, Theoretical Issues in Ergonomic Science (TIES), published on line, 2020
6. Y.Zhang,E.Suhir,Y.Xu, “Effective Young’s Modulus of Carbon Nanofiber Array”, Journal of Materials Researchm 21(11), October 2020, published on line
7. Y.Zhang,E.Suhir,Y.Xu,C.Gu, “Bonding Strength of a Carbon Nanofiber Array to Its Substrate”, Journal of Materials Research 21(11), October 2020, published on line
8. E.Suhir,”Aerospace Electronics Reliability Must Be Quantified to Be Assured: Application of the Probabilistic Design for Reliability Concept”,Int. Journal of Aeronautical Science and Aerospace Research (IJASAR), 7(3), Nov. 2020
9. E.Suhir, ”Survivability of Species in Different Habitats: Application of Multi-Parametric Boltzmann-Arrhenius-Zhurkov Equation”, Acta Astronautica, v. 175, 2020
10. E.Suhir, S.Scaraglini, and G. Paul, “Extraordinary Automated Driving Situations: Probabilistic Analytical Modeling of Human-Systems-Integration(HSI) and the Role of Trust”, In book: Advances in Simulation and Digital Human Modeling, Proceedings of the Applied Human Factors and Ergonomics (AHFE), 2020 Virtual Conferences on Human Factors and Simulation, and Digital Human Modeling and Applied Optimization, July 16-20, 2020, USA Publisher: Springer
11. E.Suhir, J.-M.Salotti and J.Nicolics, “Required Repair Time to Assure the Specified Availability”, Universal Journal of Lasers, Optics, Photonics and Sensors, 1(1), 2020
12. E.Suhir, “Boltzmann-Arrhenius-Zhurkov Equation and Its Applications In Aerospace Electronic-and-Photonic Reliability-Physics Problems”, Int. Journal of Aeronautical Science and Aerospace Research (IJASAR), 7(1), March 24, 2020
13. E.Suhir and G. Paul, “Avoiding Collision in an Automated Driving Situation”, Theoretical Issues in Ergonomics Science (TIES), March 23, 2020
14. E.Suhir, “Is Burn-in Always Needed?”, Int. J. of Advanced Research in Electrical, Electronics and Instrumentation Engineering (IJAREEIE), 9(1), Jan. 2020
15. E.Suhir, “”Quanifying Unquantifyable” in Aerospace Electronics and Ergonomics Engineering: Review”, Journal of Aerospace Engineering and Mechanics (JAEM), 4(2), 2020
16. E.Suhir, “Bonded Tri-Material Specimen Subjected to Shear-Off Testing: Predicted Interfacial Stresses”, Journal of Aerospace Engineering and Mechanics (JAEM), 4(1), 2020
17. E. Suhir, G. Paul, H. and Kaindl, “Towards Probabilistic Analysis of Human-System Integration in Automated Driving”, In: Ahram T., Karwowski W., Vergnano A., Leali F., and Taiar R. (eds) “Intelligent Human Systems Integration”, IHSI 2020. Advances in Intelligent Systems and Computing, vol 1131. Springer, Cham, 2020
18. E.Suhir and Z.Stamenkovic, “Using Yield to Predict Long-Term Reliability of Integrated Circuit (IC) Devices: Application of Boltzmann-Arrhenius-Zhurkov (BAZ) Model”, Solid-State Electronics, vol.164, Feb. 2020

**2019**

1. E.Suhir, “For How Long Should Burn-in Testing Last?”, J. of Electrical & Electronic Systems (JEES), 8(2), 2019
2. E.Suhir, “Making a Viable Medical Electron Device Package into a Reliable Product”, IMAPS Advancing Microelectronics, 46(2), 2019
3. A.Ponomarev and E. Suhir, “Predicted Useful Lifetime of Aerospace Electronics Experiencing Ionizing Radiation: Application of BAZ Model”, Journal of Aerospace Engineering and Mechanics (JAEM), 3(1), 2019
4. E.Suhir, “Analytical Thermal Stress Modeling in Electronics and Photonics Engineering: Application of the Concept of Interfacial Compliance”, Journal of Thermal Stresses, special issue dedicated to 90-th birthday of Prof. Richard Hetnarski, 2019, published on line
5. E.Suhir, “Failure-Oriented-Accelerated-Testing (FOAT), Boltzmann-Arrhenius-Zhurkov Equation (BAZ) and Their Application in Microelectronics and Photonics Reliability Engineering”, Int. J. of Aeronautical Sci. and Aerospace Research (IJASAR), 6(3), 2019
6. E.Suhir, “Failure-Oriented-Accelerated-Testing and Its Possible Application in Ergonomics”, Ergonomics International Journal, 3(2), April 2019
7. E.Suhir, S.Yi, J.S.Hwang, and R. Ghaffarian, “Elevated Stand-Off Heights of Solder Joint Interconnections Can Result in Appreciable Stress and Warpage Relief”, IMAPS J. of Microelectronics and Electronic Packaging, 16(1), Jan. 2019
8. E.Suhir, “To Burn-In, or Not to Burn-in: That’s the Question”, Aerospace, 6(3), 2019
9. E.Suhir and R. Ghaffarian, “Electron Device Subjected to Temperature Cycling: Predicted Time-to-Failure”, Journal of Electronic Materials, 48(2), 2019
10. E.Suhir, "Assessment of the Required Human Capacity Factor (UCF) Using Flight Simulator as an Appropriate Accelerated Test Vehicle", Int. Journal of Human Factors Modelling and Simulation, Short Note, 7(1),Jan. 2019

**2018**

1. E. Suhir and R. Ghaffarian, “Predicted Effect of the Underfill Glass Transition Temperature on Thermal Stresses in a Flip-Chip or a Fine-Pitch BGA Design”, Journal of Electrical and Electronic Systems (JEES), 7(4), 2018
2. E.Suhir, “Low-Cycle-Fatigue Failures of Solder Material in Electronics: Analytical Modeling Enables to Predict and Possibly Prevent Them-Review”, Journal of Aerospace Engineering and Mechanics (JAEM), 2(1), 2018
3. E.Suhir and R. Ghaffarian, “Constitutive Equation for the Prediction of an Aerospace Electron Device Performance-Brief Review”, Aerospace, vol.5, No.74, 2018
4. E. Suhir and R. Ghaffarian, “Flip-Chip (FC) and Fine-Pitch-Ball-Grid-Array (FPBGA) Underfills for Application in Aerospace Electronics Packages – Brief Review”, Aerospace, 5(3), 74, July 2018
5. E. Suhir, “Aerospace Mission Outcome: Predictive Modeling”, editorial, Special Issue “Challenges in Reliability Analysis of Aerospace Electronics”, Aerospace, 5(2), May 22, 2018
6. E.Suhir, “What Could and Should Be Done Differently: Failure-Oriented-Accelerated-Testing (FOAT) and Its Role in Making an Aerospace Electronics Device into a Product”, Journal of Materials Science: Materials in Electronics, vol.29, No.4, 2018
7. E.Suhir, Editorial, “Quantifying Human Factors: Towards Analytical Human-in-the-Loop”, Special Issue of the Int. J. of Human Factor Modeling and Simulation, v.6, No.2/3, 2018
8. E.Suhir, “Analytical Thermal Stress Model for a Typical Flip-Chip Package Design”, Journal of Materials Science: Materials in Electronics, vol.29, No.4, 2018
9. E. Suhir, “Solder Joints in Surface Mounted IC Assemblies: Relief in Stress and Warpage Owing to the Application of Elevated Stand-off Heights”. Journal of Modern Applied Physics,2(1), 2018, pp.4-9
10. E. Suhir, “Solder Joint Interconnections in Automotive Electronics: Design-for-Reliability and Accelerated Testing”, Abstracts Proceedings, SIITME, Jassy, Romania, 2018

**2017**

1. E.Suhir, “Probabilistic Design for Reliability of Electronic Materials, Assemblies, Packages and Systems: Attributes, Challenges, Pitfalls”, MMCTSE 2017, Cambridge, UK, February 24-26, Plenary Lecture
2. E.Suhir, “Aerospace Electronics Reliability Prediction: Application of Two Advanced Probabilistic Techniques”, Zeitschrift fur Angewandte Mathematiks und Mechaniks (ZAMM), vol.1, No.16, 2017
3. E. Suhir, “Flip-Chip Assembly: Is a Bi-Material Model Acceptable?”, Journal of Materials Science: Materials in Electronics, vol. 28, No. 21, 2017.
4. E.Suhir, “Analytical Modeling Enables Explaning Paradoxical Behaviors of Electronic and Optical Materials and Assemblies”, Advances in Materials Research, vol.6, No.2, 2017
5. E. Suhir, “Human-in-the-Loop: Application of the Double Exponential Probability Distribution Function Enables Quantifying the Role of the Human Factor”, Int. Journal of Human Factor Modeling and Simulation, 5 (4), 2017
6. E. Suhir and R. Ghaffarian, “Predictive Modeling of the Dynamic Response of Electronic Systems to Impact Loading: Review”, Zeitschrift fur Angewandte Mathematiks und Mechaniks (ZAMM), 97, No. 6, 2017
7. E. Suhir, and S. Yi, “Probabilistic Design for Reliability (PDfR) of Medical Electronic Devices (MEDs): When Reliability is Imperative, Ability to Quantify it is a Must”, Journal of SMT, v. 30, Issue 1, 2017
8. E. Suhir, S. Yi and R. Ghaffarian, “How Many Peripheral Solder Joints in a Surface Mounted Design Experience Inelastic Strains?”, Journal of Electronic Materials, v.46, No.3, 2017
9. E. Suhir, “Static Fatigue Lifetime of Optical Fibers Assessed Using Boltzmann-Arrhenius-Zhurkov (BAZ) Model”, Journal of Materials Science: Materials in Electronics, v.28, No.16, 2017
10. E. Suhir, R.Ghaffarian, S.Yi, and J.Nicolics “Assessed Interfacial Strength and Elastic Moduli of the Bonding Material from Shear-off Test Data”, Journal of Materials Science: Materials in Electronics, v.28, No.9, 2017
11. E. Suhir and R. Ghaffarian, “Solder Material Experiencing Low Temperature Inelastic Thermal Stress and Random Vibration Loading: Predicted Remaining Useful Lifetime”, Journal of Materials Science: Materials in Electronics, vol.28, No.4, 2017
12. E. Suhir and R. Ghaffarian, “Probabilistic Palmgren-Miner Rule with Application to Solder Materials Experiencing Elastic Deformations”, Journal of Materials Science: Materials in Electronics, vol.28, No.3, 2017
13. E. Suhir, and R. Ghaffarian, “Reliability Physics Behind the QFN State of Stress”, Journal of Materials Science: Materials in Electronics, v.28, No.2, 2017

**2016**

1. E. Suhir, R. Ghaffarian, “Column-Grid-Array (CGA) vs. Ball-Grid-Array (BGA): Board-Level Drop Test and the Expected Dynamic Stress in the Solder Material”, Journal of Materials Science: Materials in Electronics, vol.27, No.11, 2016
2. E. Suhir, S. Yi, G. Khatibi, J. Nicolics, M. Lederer, “Semiconductor Film Grown on a Circular Substrate: Predictive Modeling of Lattice-Misfit Stresses”, Journal of Materials Science: Materials in Electronics, vol.27, No.9, 2016
3. E. Suhir, R. Ghaffarian, “Board Level Drop Test: Exact Solution to the Problem of the Nonlinear Dynamic Response of a PCB to the Drop Impact”, Journal of Materials Science: Materials in Electronics, vol.27, No.9, 2016
4. E. Suhir, “Analytical Modeling Occupies a Special Place in the Modeling Effort”, Short Comm., J.Phys.Math., 7(1), 2016
5. E. Suhir, J. Morris, L. Wang, and S. Yi, “Could the Dynamic Strength of a Bonding Material in an Electronic Device Be Assessed from Static Shear-Off Test Data?”, Journal of Materials Science: Materials in Electronics, vol.27, No.7, 2016
6. E. Suhir, and J.Nicolics, “Power Core (PC) Embedding a Plurality of IC Devices and Sandwiched Between Two Dissimilar Insulated Metal Substrates (IMS’): Predicted Thermal Stresses”, Journal of Materials Science: Materials in Electronics, vol.27, No.7, 2016
7. E. Suhir, “Bi-Material Assembly Subjected to Thermal Stress: Propensity to Delamination Assessed Using Interfacial Compliance Model”, Journal of Materials Science: Materials in Electronics, vol.27, No.7, 2016
8. E. Suhir, “Expected Stress Relief in a Bi-Material Inhomogeneously Bonded Assembly with a Low-Modulus-and/or-Low-Fabrication-Temperature Bonding Material at the Ends”, Journal of Materials Science: Materials in Electronics, vol.27, No.6, 2016
9. E. Suhir, R. Ghaffarian, "Predicted Stresses in a Ball-Grid-Array (BGA)/Column-Grid-Array (CGA) Assembly with Epoxy Adhesive at Its Ends", Journal of Materials Science: Materials in Electronics, vol.27, No.5, 2016
10. E. Suhir, “Bi-Material Assembly with a Low-Modulus-and/or-Low-Fabrication-Temperature Bonding Material at Its Ends: Optimized Stress Relief”, Journal of Materials Science: Materials in Electronics, vol.27, No.5, 2016
11. E. Suhir, R. Ghaffarian, J. Nicolics,, “Predicted Stresses in Ball-Grid-Array (BGA) and Column-Grid-Array (CGA) Interconnections in a Mirror-like Package Design”, Journal of Materials Science: Materials in Electronics, vol.27, No.3, 2016
12. E. Suhir, R. Ghaffarian, J. Nicolics, “Could Thermal Stresses in an Inhomogeneous BGA/CGA System be Predicted Using a Model for a Homogeneously Bonded Assembly?”, Journal of Materials Science: Materials in Electronics, vol.27, No. 1, 2016

**2015**

1. E. Suhir, "Predicted Stresses in a Ball-Grid-Array (BGA)/Column-Grid-Array (CGA) Assembly with a Low Modulus Solder at Its Ends", Journal of Materials Science: Materials in Electronics, vol.26, No.12, 2015
2. E. Suhir, “Analytical Modeling Enables Explaining Paradoxical Situations in the Behavior and Performance of Electronic Materials and Products: Review”, Journal of Physical Mathematics 07(01) · Dec. 2015
3. E. Suhir, “Analysis of a Short Beam with Application to Solder Joints: Could Larger Stand-off Heights Relieve Stress?”, European Journal of Applied Physics (EPJAP), vol. 71, 2015
4. A. Bensoussan, E. Suhir, P. Henderson, M. Zahir, “A Unified Multiple Stress Reliability Model for Microelectronic Devices — Application to 1.55 μm DFB Laser Diode Module for Space Validation”, Microelectronics Reliability, June 2015
5. E. Suhir, R. Ghaffarian, J. Nicolics, “Could Application of Column-Grid-Array Technology Result in Inelastic-Strain-Free State-of-Stress in Solder Material?”, J. of Materials Science: Materials in Electronics, 26(12), 2015
6. E. Suhir, "Analytical Bathtub Curve with Application to Electron Device Reliability", Journal of Materials Science: Materials in Electronics, vol. 26, Issue 9,2015.
7. E. Suhir, A. Bensoussan, and J. Nicolics, "Bow-Free Tri-Component Mechanically Pre-Stressed Failure-Oriented-Accelerated-Test (FOAT) Specimen," SAE Technical Paper 2015-01-2551, 2015.
8. E.Suhir, “Human-in-the-Loop: Could Predictive Modeling Improve Human Performance?” Journal of Physical Mathematics 07(01), December 2015

**2014**

1. E. Suhir, “Human-in-the-loop (HITL): Probabilistic Predictive Modeling (PPM) of an Aerospace Mission/Situation Outcome”, Aerospace, No.1, 2014
2. E. Suhir and A. Bensoussan, "Quantified Reliability of Aerospace Optoelectronics," SAE Int. J. Aerosp. 7(1), 2014
3. E. Suhir and J. Nicolics, “Analysis of a Bow-Free Pre-Stressed Test Specimen”, ASME JAM, 81(11), 2014
4. E. Suhir, “Three-Step Concept in Modeling Reliability: Boltzmann-Arrhenius-Zhurkov Physics-of-Failure-Based Equation Sandwiched Between Two Statistical Models”, Microelectronics Reliability, Oct. 2014
5. E. Suhir, “Compressed Cantilever Beam on an Elastic Foundation, with Application to a Dual-Coated Fiber-Optic Connector”, Int. Journal of Engineering Sciences, vol.83, Oct. 2014
6. E. Suhir, “Human-in-the-loop: Probabilistic Predictive Modeling, Its Role, Attributes, Challenges and Applications”, Theoretical Issues in Ergonomics Science (TIES), published on line, July 2014
7. E. Suhir, C. Bey, S. Lini, J.-M. Salotti, S. Hourlier, B. Claverie, “Anticipation in Aeronautics: Probabilistic Assessments”, Theoretical Issues in Ergonomics Science (TIES), published on line, June 2014
8. A. Ziabari, E.Suhir, A. Shakouri, “Minimizing Thermally Induced Interfacial Shearing Stress in a Thermoelastic Module with Low Fractural Area Coverage”, Microelectronics Reliability, 45(5), May 2014
9. E. Suihir, “Fiber Optics Engineering: Physical Design for Reliability”, Facta Universitatis: series Electronics and Energetics", 27(2), June 2014
10. E. Suhir, “Thermal Stress in Through-Silicon-Vias: Theory-of-Elasticity Approach”, Microelectronics Reliability, vol.54, 2014
11. E. Suhir, “Statistics- and Reliability-Physics-Related Failure Processes”, Modern Physics Letters B (MPLB), 28(13), 2014
12. J.-M. Salotti and E. Suhir, “Manned Missions to Mars: Minimizing Risks of Failure”, Acta Astronautica, Vol. 93, January 2014

**2013**

1. E. Suhir, S. Kang, J. Nicolics, C. Gu, A. Bensoussan, L. Bechou, “Predicted Thermal Stresses in a Cylindrical Tri-Material Body, with Application to Optical Fibers Embedded into Silicon", J. of Electrical and Control Engineering, 3(6), Dec. 2013
2. E. Suhir, “Lattice-Misfit Stresses in a Circular Bi-Material Gallium-Nitride Assembly”, ASME J. Appl. Mech., vol.80, January 2013
3. E. Suhir, “How Long Could/Should be the Repair Time for High Availability?”, Modern Physics Letters B (MPLB), vol.27, Aug.30, 2013
4. E. Suhir, “Could Electronics Reliability Be Predicted, Quantified and Assured?” Microelectronics Reliability, 53(7), July 2013, pp.925-936
5. E. Suhir, S. Kang, “Boltzmann-Arrhenius-Zhurkov (BAZ) Model in Physics-of-Materials Problems”, Modern Physics Letters B (MPLB), vol.27, April 2013
6. E. Suhir, “Structural Dynamics of Electronics Systems”, Modern Physics Letters B (MPLB), 27(7), March 2013
7. E. Suhir, “Thermal Stress Failures in Electronics and Photonics: Physics, Modeling. Prevention”, J. Thermal Stresses, 36(6), June 3, 2013
8. E. Suhir and A.Shakouri, “Predicted Thermal Stresses in a Multi-Leg Thermoelectric Module (TEM) Design”, ASME J. Appl. Mech., vol. 80, March 2013
9. E. Suhir, D. Shangguan, L. Bechou, “Predicted Thermal Stresses in a Tri-Material Assembly with Application to Silicon-Based Photovoltaic Module ”, ASME J. Appl. Mech., vol.80, March 2013
10. E. Suhir, L.Bechou, B. Levrier, “Predicted Size of an Inelastic Zone in a Ball-Grid-Array Assembly”, ASME J. Appl. Mech., vol. 80, March 2013

**2012**

1. E. Suhir, ”“Miracle-on-the-Hudson”: Quantified Aftermath”, Int. Journal of Human Factors Modeling and Simulation (IJHFMS), 4(1) 2012
2. W. Benhadjala, I. Bord-Majek, L. Bechou, E. Suhir, M.Buet, F. Rougé, V. Gaud, B. Plano, Y. Ousten, "Improved Performances of Polymer-Based Dielectric by Using Inorganic/Organic Core-Shell Nanoparticles", Appl. Phys. Lett., 101, 142901, Oct. 2012
3. E. Suhir, A. Shakouri, “Assembly Bonded at the Ends: Could Thinner and Longer Legs Result in a Lower Thermal Stress in a Thermoelectric Module (TEM) Design?”, ASME J. Appl. Mech., vol.79, No.6, 2012
4. E. Suhir, “When Reliability is Imperative, Ability to Quantify It is a Must”, IMAPS Advanced Microelectronics, August 2012
5. E. Suhir, D. Shangguan, L .Bechou, “Predicted Thermal Stresses in a Photovoltaic Module (PVM)”, PV International (UK), Second Quarter, May 2012
6. E. Suhir, J. Nicolics, “Bending of a Bi-Material Cantilever Beam, with Consideration of the Role of the Interfacial Shearing Stress”, Zeitschrift fur Angewandte Mathematiks und Mechaniks (ZAMM), 92(7), 2012
7. E. Suhir, “Likelihood of Vehicular Mission-Success-and-Safety”, J. of Aircraft, 49(1), 2012
8. E. Suhir, L. Bechou, and A. Bensoussan. "Technical Diagnostics in Electronics: Application of Bayes Formula and Boltzmann-Arrhenius-Zhurkov (BAZ) Model", .Printed Circuit Design& Fab/Circuits Assembly, 29(12), 2012

**2011**

1. E. Suhir, “Remaining Useful Lifetime (RUL): Probabilistic Predictive Model”, Int. J. of PHM, vol 2(2), 2011
2. E. Suhir, W.Gschohsmann, and J. Nicolics, “Analysis of a Bi-Material Strip”,Zeitschrift fur Angewandte Mathematiks und Mechaniks (ZAMM), 1(9), 2011
3. E. Suhir, “Stresses in Bi-Material GaN Assemblies”, J. Appl. Physics, 110 (7), 2011
4. E. Suhir, “Predicted Response of the Die-Carrier Assembly to the Combined Action of Tension and Bending Applied to the Carrier in Flexible Electronics”, ASME J. Appl. Mech., 79(1), 2011
5. E. Suhir, C.Gu, L.Cao, “Predicted Thermal Stress in a Circular Adhesively Bonded Assembly with Identical Adherends”, ASME J. Appl. Mech, vol. 79, No.1, 2011
6. E. Suhir, “Elastic Stability of a Rod Supported by an Elastic Foundation, with Application to Nano-Composites”, ASME J. Appl. Mech, vol. 79, No.1, 2011
7. W. Gschohsmann, J. Nicolics, E. Suhir, “Deformations in Stretched Surface Mounted Ceramic Strips for Sensor Applications”, Microelectronics International, vol.28, Issue 3, 2011
8. E. Suhir, “Thermal Stress Failures: Predictive Modeling Explains the Reliability Physics Behind Them”, IMAPS Advanced Microelectronics, vol.38, No.4, July/August 2011
9. E. Suhir, “Predictive Modeling of the Dynamic Response of Electronic Systems to Shocks and Vibrations”, ASME Appl. Mech. Reviews, vol. 63, No.5, March, 2011
10. E.Suhir, “Analysis of a Pre-Stressed Bi-Material Accelerated Life Test (ALT) Specimen”, Zeitschrift fur Angewandte Mathematik und Mechanik (ZAMM), vol.91, No.5, 2011
11. E. Suhir and R. H. Mogford, “"Two Men in a Cockpit": Probabilistic Assessment of the Likelihood of a Casualty if One of the Two Navigators Becomes Incapacitated”, J. of Aircraft, vol.48, No.4, July-August 2011

**2010**

1. W. Gschohsmann, J. Nicolics,  E. Suhir, “Elastizitätsmodell eines keramischen Sensorstreifens bei longitudinaler Verformung”,  [Elektrotechnik und Informationstechnik](http://www.ingentaconnect.com/content/klu/502;jsessionid=16bypxjuy1xqj.alice), Vol. 127, No.10, October 2010
2. E. Suhir, “Probabilistic Modeling of the Role of the Human Factor in the Helicopter-Landing-Ship (HLS) Situation”, Int. J. Human Factor Modeling and Simulation (IJHFMS), vol.1, Issue 3, 2010
3. E. Suhir, W. Gschohsmann, J. Nicolics, “Analysis of an Elongated Stretched Strip, With Application to a Strain-Gage Electrical Sensor Structure’, Zeitschrift fur Angewandte Mathematiks und Mechaniks (ZAMM), No.10, 2010
4. E.Suhir, “Predicted Stresses in Die-Carrier Assemblies in “Stretchable” Electronics: Is There an Incentive for Using a Compliant Bond?”, Zeitschrift fur Angewandte Mathematiks und Mechaniks (ZAMM), No.10, 2010
5. E. Suhir and L.Arruda, “Could an Impact Load of Finite Duration Acting on a Duffing Oscillator Be Substituted with an Instantaneous Impulse?”, JSME J. Solid Mech. and Mater. Engineering (JSMME), vol.4, No.9, 2010
6. E. Suhir and T. Reinikainen, “Interfacial Stresses in a Lap Shear Joint (LSJ): The “Transverse Groove Effect” (TGE)”, JSME J. Solid Mech. and Materials Engineering (JSMME), vol.4, No.8, 2010
7. E. Suhir and M.Vujosevic, “Bi-Material Assembly Subjected to Tensile Forces and Bending Moments Applied to the Ends of One of Its Components”, JSME J. Solid Mech. and Materials Engineering, vol.4, No.4, 2010
8. E. Suhir, “Optical Fiber Interconnects: Design for Reliability”, Society of Optical Engineers (SPIE), Proc. of SPIE, Vol. 7607 760717-8, 2010

**2009**

1. E. Suhir and L. Arruda, “The Coordinate Function in the Problem of the Nonlinear Dynamic Response of an Elongated Printed Circuit Board (PCB) to a Drop Impact Applied to Its Support Contour”, European J. Appl. Physics, vol.48, No.2, 2009
2. C.Y.Zhou, T.X.Yu, E.Suhir, “Design of Shock Table Tests to Mimic Real-Life Drop Conditions”, IEEE CPMT Transactions, vol.32, No.4, 2009
3. Biswas, I.S. Bayer, A. Tripathi, E.H.Lock, S.G. Walton, M.G. Norton, D.K. Avasthi, D.H.Dahanayaka, L.A.Bumm, E.Suhir, A.R.Chowdhury, R. Gupta, “Fabrication of Nanoelectric Composites Exhibiting Stable Capacitor Functions in the High Frequency (≥100MHz) Through Interfacial Polarization Interactions”, Nanoscience and Nanotechnology Letters, vol.1, 1-8, 2009
4. I.S. Biswas, D.H.Bayer, L.A. Dahanayaka, Z. Bumm, F, Li, R. Watanabe, Y. Sharma, A.S.. Xu, M.G. Norton, E. Suhir, “Tailored Polymer-Metal Fractal Nanocomposites: An Approach to Highly Active SERS Substrates”, Nanotechnology, 20, 2009
5. E. Suhir, “On a Paradoxical Situation Related to Bonded Joints: Could Stiffer Mid-Portions of a Compliant Attachment Result in Lower Thermal Stress?”, JSME J. Solid Mech. and Materials Engineering, 3(7), 2009
6. E .Suhir, “Helicopter-Landing-Ship: Undercarriage Strength and the Role of the Human Factor”, ASME OMAE Journal, vol. 132, No.1, Dec. 22, 2009
7. E. Suhir, “Probabilistic Modeling of the Role of the Human Factor in the Helicopter Landing Ship (HLS) Situation”, International Journal of Human Factor Modeling and Simulation (IJHFMS), 2009
8. E. Suhir, “Analytical Thermal Stress Modeling in Electronic and Photonic Systems”, ASME App. Mech. Reviews, invited paper, vol.62, No.4, 2009.
9. E. Suhir and T. Reinikainen, “Interfacial Stresess and a Lap Shear Joint (LSJ): The “Transverse Groove Effect” (TGE)”, JSME J. Solid Mech. and Materials Engineering (JSMME), vol.3, No.6, 2009
10. E. Suhir, M. Vujosevic, and T. Reinikainen, “Nonlinear Dynamic Response of a “Flexible-and-Heavy” Printed Circuit Board (PCB) to an Impact Load Applied to Its Support Contour”, J. Appl. Physics, D, 42, No.4, 2009
11. E. Suhir, “Thermal Stress in a Bi-Material Assembly with a “Piecewise-Continuous” Bonding Layer: Theorem of Three Axial Forces”, J. Appl. Physics, D, 42, 2009

**2008**

1. E. Suhir and M. Vujosevic, “Interfacial Stresses in a Bi-material Assembly with a Compliant Bonding Layer”, J. Appl. Physics D, vol.41, 2008
2. E. Suhir and T. Reinikainen, “On a Paradoxical Situation Related to Lap Shear Joints: Could Transverse Grooves in the Adherends Lead to Lower Interfacial Stresses?”, J. Appl. Physics D, vol.41, 2008
3. E. Suhir, “Lateral Compliance of a Compressed Cantilever Beam, with Application to Micro-Electronic and Fiber-Optic Structures”, J. Appl. Physics D, vol.41,No.1, 2008
4. I.S.Bayer, A.Biswas, J.B.Szczech, E.Suhir, M.G.Norton, “Radio Frequency Functional Capacitors Made of All-Organic Composites of Thiourea in Field-Responsive Polymers for Embedded Applications”, Applied Physics Letters, vol. 92, No.1, 2008.

**2007**

1. T. Mirer, D. Ingman, E. Suhir, “Reliability Improvement Through Nano-Particle-Material-Based Fiber Structures”, Optical Fiber Technology, v. 13, 2007
2. E. Suhir, “Elastic Stability of a Dual-Coated Optical Fiber of Finite Length”, J. Appl. Physics, vol.102, No.5, 2007
3. E. Suhir, “Response of a Heavy Electronic Component to Harmonic Excitations Applied to Its External Electric Leads”, Elektrotechnik & Informationstechnik (Austria), vol.9, 2007
4. E. Suhir, “Elastic Stability of a Dual-Coated Optical Fiber with a Stripped Off Coating at Its End”, Journal of Applied Physics, vol. 102, No.4, 2007

**2006**

1. E.Suhir, “Interfacial Thermal Stresses in a Bi-Material Assembly with a Low-Yield-Stress Bonding Layer”, Modeling and Simulation in Materials Science and Engineering, vol. 14, 2006
2. Y. Xu, Y. Zhang, E. Suhir, and X. Wang, ” Thermal Properties of Carbon Nanotube Array Used for Integrated Circuits Cooling” J. Appl. Physics, 100 (7), 074302-5, Oct. 2006
3. Y. Zhang, Y. Xu and E. Suhir, “Effect of Rapid Thermal Annealing (RTA) on Thermal Properties of Carbon Nanofibre (CNF) Arrays”, J. Appl. Physics D: Applied Physics, 39, 2006
4. Y. Zhang, Y. Xu and E. Suhir, “Effective Young’s Modulus of Carbon Nano-Fiber Array”, J. Materials Research, 21(11), Nov. 2006
5. Y. Zhang, E. Suhir, Y. Xu, and C. Gu, “ Bonding Strength of Carbon Nanofiber Array to its Substrate”, J. Materials Research, 21(11), Nov.2006

**2003**

1. E. Suhir, “Thermal Stress in an Adhesively Bonded Joint with a Low Modulus Adhesive Layer at the Ends”, J. Appl. Phys., April 2003
2. E. Suhir, “Modeling of Thermal Stress in Microelectronic and Photonic Structures: Role, Attributes, Challenges and Brief Review”, Special Issue, ASME J. Electr. Packaging, 125(2), June 2003
3. E. Suhir, “Bow Free Adhesively Bonded Assemblies: Predicted Stresses”, Electrotechnik & Informationtechnik, 120 (6), June 2003

**2002**

1. E. Suhir, “Accelerated Life Testing (ALT) in Microelectronics and Photonics: Its Role, Attributes, Challenges, Pitfalls, and Interaction With Qualification Tests”, ASME J. Electr. Packaging (JEP), 124(3), 2002
2. E.Suhir, “Could Shock Tests Adequately Mimic Drop Test Conditions?”, J. Electr. Packaging (JEP), July, 2002

**2001**

1. E. Suhir, “Thermal Stress in a Polymer Coated Optical Glass Fiber with a Low Modulus Coating at the Ends”, J. Mat. Res., 16(10), 2001
2. M. Ushitsky, E. Suhir, G.W. Kammlott, “Thermoelastic Behavior of Filled Molding Compounds: Composite Mechanics Approach”, ASME J. Electr. Pack., 123(4), 2001
3. E. Suhir, "Analysis of Interfacial Thermal Stresses in a Tri-Material Assembly", J. Appl. Physics, 89(7), 2001
4. E. Suhir, “Thermal Stress in a Bi-Material Assembly Adhesively Bonded at the Ends”, J. Appl. Physics, 89(1), 2001.
5. M. Uschitsky and E. Suhir, “Moisture Diffusion in Epoxy Molding Compounds Filled with Particles", ASME J. Electr. Pack., 123 (1), 2001

**2000**

1. E. Suhir, “Microelectronics and Photonics – the Future”, Microelectronics Journal, 31(11-12), 2000
2. E. Suhir, and J.J. Vuillamin, Jr, "Effects of the CTE and Young's Modulus Lateral Gradients on the Bowing of an Optical Fiber: Analytical and Finite Element Modeling", Optical Engineering, 39(12), 2000
3. E. Suhir, “Predicted Fundamental Vibration Frequency of a Heavy Electronic Component Mounted on a Printed Circuit Board”, ASME J. Electr. Packaging (JEP), 122(1), 2000
4. E.Suhir, “Modeling of the Mechanical Behavior of Materials in “High-Tech” Systems: Attributes and Review”, ASME J. Electr. Packaging (JEP), 121(3), 2000
5. E. Suhir, “Thermal Stress Modeling in Microelectronics and Photonics Packaging, and the Application of the Probabilistic Approach: Review and Extension”, IMAPS Int. J. Microcircuits and Electronic Packaging, vol.23, No.2, 2000 (invited paper)
6. E. Suhir, “Predicted Stresses in, and the Bow of, a Circular Substrate/Thin-Film System Subjected to the Change in Temperature”, J. Appl. Physics, vol.88, No.5, 2000
7. E.Suhir, “Optical Fiber Interconnect with the Ends Offset and Axial Loading: What Could Be Done to Reduce the Tensile Stress in the Fiber”?, J. Appl. Physics, vol.88, No.7, 2000
8. E. Suhir, “Adhesively Bonded Assemblies with Identical Non-deformable Adherends and “Piecewise Continuous” Adhesive Layer: Predicted Thermal Stresses and Displacements in the Adhesive”, Int. J. Solids and Structures, vol.37, 2000

**1999**

1. E. Suhir, “Adhesively Bonded Assemblies with Identical Non-deformable Adherends: Predicted Thermal Stresses in the Adhesive Layer”, Composite Interfaces, 6(2),1999
2. E. Suhir, “Optimized Configuration of an Optical fiber “Pigtail” Bent on a Cylindrical Surface”, in T. Winkler and A, Schubert, eds., “Materials Mechanics, Fracture Mechanics, Micromechanics”, An Anniversary Volume in Honor of B. Michel’s 50th Birthday, Fraunhofer IZM, Berlin, 1999

**1998**

1. E. Suhir,“Adhesively Bonded Assemblies with Identical Non-deformable Adherends and Inhomogeneous Adhesive Layer: Predicted Thermal Stresses in the Adhesive”, J. Reinforced Plastics and Composites, 17(14), 1998
2. E. Suhir, “Fiber Optic Structural Mechanics – Brief Review”, Editor’s Note, ASME J. Electr. Packaging (JEP), Sept.1998.
3. E. Suhir, “The Future of Microelectronics and Photonics and the Role of Mechanics and Materials”, ASME J. Electr. Packaging (JEP), March 1998

**1997**

1. E. Suhir, "Bending of a Partially Coated Glass Fiber Subjected to the Ends Off-Set", IEEE CPMT Transactions, June 1997.
2. E. Suhir, “Predicted Thermal Mismatch Stresses in a Cylindrical Bi-Material Assembly Adhesively Bonded at the Ends”, ASME J. Appl. Mech., 64(1), 1997.
3. E. Suhir, “Is the Maximum Acceleration an Adequate Criterion of the Dynamic Strength of a Structural Element in an Electronic Product?”, IEEE CPMT Transactions, Part A, vol.20, No.4, December 1997.
4. E. Suhir, “Probabilistic Approach to Evaluate Improvements in the Reliability of Chip-Substrate (Chip-Card) Assembly“, IEEE CPMT Transactions, Part A, vol. 20, No. 1, 1997.
5. E. Suhir, “Failure Criterion for Moisture-Sensitive Plastic Packages of Integrated Circuit (IC) Devices: Application of von-Karman Equations with Consideration of Thermoelastic Strains”, Int. Journal of Solids and Structures, 34(12), 1997

**1996**

1. E. Suhir, “Predicted Curvature and Stresses in an Optical Fiber Interconnect Subjected to Bending”, IEEE/OSA Journal of Lightwave Technology, vol. 14, No. 2, 1996
2. E. Suhir, “Dynamic Response of a One-Degree-of-Freedom Linear System to a Shock Load during Drop Tests: Effect of Viscous Damping”, IEEE CPMT Transactions, Part A, vol. 19, No.3, 1996
3. E. Suhir, “Shock-Excited Vibrations of a Conservative Duffing Oscillator with Application to Shock Protection in Portable Electronics”, Int. Journal of Solids and Structures, vol. 33, No. 24, 1996

**1995**

1. E.Suhir,‘‘Global and Local Thermal Mismatch Stresses in an Elongated Bi-Material Assembly Adhesively Bonded at the Ends,’’ Symp. on Structural Analysis in Microelectronic and Fiber Optic Systems, ASME Winter Annual Meeting, EEP/12,1995
2. E. Suhir, “Analysis and Optimization of the Input/Output Fiber Configuration in a Laser Package Design”, ASME Journal of Electronic Packaging, vol. 117, No. 4, 1995
3. E. Suhir, “Shock Protection with a Nonlinear Spring”, IEEE CPMT Transactions, Advanced Packaging, Part B, vol. 18, No. 2, 1995
4. E. Suhir, “How Compliant Should a Die-Attachment Be to Protect the Chip From Substrate (Card) Bowing?”, ASME J. Electr. Packaging (JEP), vol. 117, No. 1, 1995

**1994**

1. E. Suhir, “Approximate Evaluation of the Elastic Thermal Stresses in a Thin Film Fabricated on a Very Thick Circular Substrate”, ASME J. Electr. Packaging (JEP), vol. 116, No. 3, 1994
2. E. Suhir E., “Dynamic Response of a Rectangular Plate to a Shock Load, with Application to Portable Electronic Product,” IEEE CPMT Transactions, Vol.17, No. 3, 1994.
3. E. Suhir, “Approximate Evaluation of the Interfacial Shearing Stress in Circular Double Lap Shear Joints, with Application to Dual-Coated Optical Fibers”, Int. Journal of Solids and Structures, vol. 31, No. 23, 1994
4. E. Suhir, “Thermally Induced Stresses in an Optical Glass Fiber Soldered into a Ferrule”, IEEE/OSA Journal of Lightwave Technology, vol. 12, No. 10, 1994
5. E. Suhir, “Pull Testing of a Glass Fiber Soldered into a Ferrule: How Long Should the Test Specimen Be?”, Applied Optics, vol. 33, No. 19, 1994
6. E. Suhir and R. Burke, “Analysis and Optimization of the Dynamic Response of a Rectangular Plate to a Shock Load Acting on Its Support Contour, With Application to Portable Electronic Products”, IEEE CHMT Transactions, Advanced Packaging, Part B, vol. 17, No. 3, 1994

**1993**

1. E. Suhir, “Can the Curvature of an Optical Glass Fiber be Different from the Curvature of Its Coating?”, Int. J. Solids and Structures, vol. 30, No. 17, 1993
2. E. Suhir, “Predicted Stresses and Strains in Fused Biconical Taper Couplers Subjected to Tension”, Applied Optics, vol. 32, No. 18, 1993
3. E. Suhir, “Analytical Modeling of the Interfacial Shearing Stress in Dual-Coated Optical Fiber Specimens Subjected to Tension”, Applied Optics, vol. 32, No. 16, 1993
4. E. Suhir, “Effect of the Nonlinear Stress-Strain Relationship on the Maximum Stress in Silica Fibers Subjected to Two-Point Bending”, Applied Optics, vol. 32, No. 9, 1993
5. E. Suhir, “Analytical Modeling of the Interfacial Shearing Stress During Pull-Out Testing of Dual-Coated Lightguide Specimens”, Applied Optics, vol. 32, No. 7, 1993
6. E. Suhir, “Predicted Bow of Plastic Packages of Integrated Circuit (IC) Devices”, J. Reinforced Plastics and Composites, vol. 12, Sept. 1993
7. V. Mishkevich and E. Suhir, “Simplified Approach to the Evaluation of Thermally Induced Stresses in Bi-Material Structures”, in E. Suhir, ed., “Structural Analysis in Microelectronics and Fiber Optics”, ASME Press, 1993
8. E. Suhir, C. Paola, W. M. MacDonald, “Input/Output Fiber Configuration in a Laser Package Design”, IEEE/OSA J. Lightwave Technology, vol. 11, No. 12, 1993

**1992**

1. E. Suhir, “Free Vibrations of a Fused Biconical Taper Lightwave Coupler”, Int. J. Solids and Structures, vol. 29, No. 24, 1992
2. E. Suhir, “Vibration Frequency of a Fused Biconical Taper (FBT) Lightwave Coupler”, IEEE/OSA Journal of Lightwave Technology, vol. 10, No. 7, 1992
3. E. Suhir, “The Effect of the Nonlinear Behavior of the Material on Two-Point Bending in Optical Glass Fibers”, ASME J. Electr. Packaging (JEP), vol. 114, No. 2, 1992
4. E. Suhir, “Elastic Stability, Free Vibrations, and Bending of Optical Glass Fibers: The Effect of the Nonlinear Stress-Strain Relationship”, Applied Optics, vol. 31, No. 24, 1992
5. E. Suhir, “Response of a Flexible Printed Circuit Board to Periodic Shock Loads Applied to Its Support Contour”, ASME J. Appl. Mech, vol. 59, No. 2, 1992
6. E. Suhir, “Nonlinear Dynamic Response of a Flexible Thin Plate to Constant Acceleration Applied to Its Support Contour, with Application to PCBs Used in Avionic Packaging”, Int. J. Solids and Structures, vol. 29, No. 1, 1992
7. E. Suhir and L. T. Manzione, “Predicted Bow of Plastic Packages Due to the Non-uniform Through-Thickness Distribution of Temperature”, ASME J. Electr. Packaging (JEP), vol. 114, No. 3, 1992

**1991**

1. E. Suhir, “Approximate Evaluation of the Elastic Interfacial Stresses in Thin Films with Application to High-Tc Superconducting Ceramics”, Int. J. Solids and Structures, vol. 27, No. 8, 1991
2. E. Suhir, “Stress Relief in Solder Joints Due to the Application of a Flex Circuit”, ASME J. Electr. Packaging (JEP), vol. 113, No. 3, 1991
3. E. Suhir, G. M. Bubel, and R. D. Tuminaro, “Predicted Curvature of the Glass Fiber from the Measured Curvature of Its Coating”, IEEE/OSA Journal of Lightwave Technology, vol. 9, No. 6, 1991
4. E. Suhir and L. T. Manzione, “Predicted Stresses in Wire Bonds of Plastic Packages during Transfer Moldings”, ASME J. Electr. Packaging (JEP), vol. 113, No. 1, 1991
5. E. Suhir, “A Plate Contactor in a Mechanical Input/Output Connector Interface: How Small Can It Be?”, ASME J. Electr. Packaging (JEP), vol. 113, No. 1, 1991
6. E. Suhir and L. T. Manzione, “Mechanical Deformation of Lead Frame Assemblies in Plastic Packages during Molding”, ASME J. Electr. Packaging (JEP), vol. 113, No. 4, 1991

**1990**

1. E. Suhir, "Calculated Stresses in Dual-Coated Optical Fibers", Polymer Eng. & Sci., 30, 1990
2. E. Suhir, “Stresses in a Coated Fiber Stretched on a Capstan”, Applied Optics, vol. 29, No. 18, 1990
3. E. Suhir and J. M. Segelken, "Mechanical Behavior of Flip-Chip Encapsulants”, ASME J. Electr. Packaging (JEP), vol. 112, No. 4, 1990
4. E. Suhir, “Buffering Effect of Fiber Coating and Its Influence on the Proof-Test Load in Optical Fibers”, Applied Optics, vol. 29, No. 18, 1990
5. E. Suhir, “Mechanical Approach to the Evaluation of the Low Temperature Threshold of Added Transmission Losses in Single-Coated Optical Fibers”, IEEE/OSA J. Lightwave Techn., vol. 8, No. 6, 1990
6. E. Suhir, “Double-Sided Velcro-Type Input/Output Contactor Interface Design: Mechanical Behavior of Elastic Contactors”, ASME J. Electr. Packaging (JEP), vol. 112, No. 4, 1990
7. E. Suhir and B. Poborets, “Solder Glass Attachment in Cerdip/Cerquad Packages: Thermally Induced Stresses and Mechanical Reliability”, ASME J. Electr. Packaging (JEP), vol. 112, No. 2, 1990
8. E. Suhir, “How Long Should a Beam Specimen Be in Bending Tests?”, ASME J. Electr. Packaging, 112(1), 1990
9. E. Suhir, “Predicted Mechanical Behavior of High-Tc Superconducting Ceramic Films”, in T. Venkatesan, ed., “Processing of Films for High-Tc Superconducting Electronics”, SPIE, Vol. 1187, 1990
10. E. Suhir and T. M. Sullivan, “Analysis of Interfacial Thermal Stresses and Adhesive Strength of Bi-Annular Cylinders”, Int. J. Solids and Structures, vol. 26, No. 6, 1990
11. E. Suhir and W. E. Benedetto, “Mechanical Behavior of the “Euler” Test Probe”, ASME J. Electr. Packaging (JEP), 112(1), 1990

**1989**

1. E. Suhir, “Interfacial Stresses in Bi-Metal Thermostats”, ASME J. Appl. Mech., vol. 56, No. 3, September 1989
2. E. Suhir, “Analytical Modeling in Structural Analysis for Electronic Packaging: Its Merits, Shortcomings and Interaction with Experimental and Numerical Techniques”, ASME J. Electr. Packaging (JEP), 111(2), June 1989
3. E. Suhir, “Axisymmetric Elastic Deformations of a Finite Circular Cylinder with Application to Low Temperature Strains and Stresses in Solder Joints”, ASME J. Appl. Mech., 56(2), 1989
4. E. Suhir, “Applications of an Epoxy Cap in a Flip-Chip Package Design”, ASME J. Electr. Packaging (JEP), 111(1), 1989
5. E. Suhir, “Bending Performance of Clamped Optical Fibers: Stresses Due to the End Off-Set”, Applied Optics, 28(3), February 1989.
6. E. Suhir, “Can Power Cycling Life of Solder Joint Interconnections Be Assessed on the Basis of Temperature Cycling Tests?”, ASME J. Electr. Packaging (JEP), 111(4), Dec. 1989.
7. E. Suhir, “Calculated Interfacial Stresses in Elongated Bi-Material Plates Subjected to Bending”, ASME J. Electr. Packaging (JEP), 111(4), Dec. 1989.
8. E. Suhir, “Twist-off Testing of Solder Joint Interconnections”, ASME J. Electr. Packaging (JEP), 111(3), Sept. 1989.

**1988**

1. E. Suhir, “Stresses in Dual - Coated Optical Fibers”, ASME J. Appl. Mech., 55(10), 1988.
2. E. Suhir, “Spring Constant In the Buckling of Dual-Coated Optical Fibers”, IEEE/OSA J. Lightw. Techn., 6(7), 1988.
3. E. Suhir, “Effect of Initial Curvature on Low Temperature Microbending in Optical Fibers”, IEEE/OSA J. Lightwave Techn., 6(8), 1988.
4. E. Suhir, “An Approximate Analysis of Stresses in Multilayer Elastic Thin Films”, ASME J. Appl. Mech., 55(3), 1988.
5. E. Suhir, “On a Paradoxical Phenomenon Related to Beams on Elastic Foundation”, ASME J. Appl. Mech., 55(10), 1988.

**1987**

1. E. Suhir,‘‘Stresses in Multilayered Thin Films on a Thick Substrate, Heteroepitaxy-on-Silicon II,’’ MRS Symp.Proc, 91, 1987

**1986**

1. E. Suhir, “Stresses in Bi-Metal Thermostats”, ASME J. Appl. Mech., vol. 53, No. 3, Sept. 1986.
2. S. Luryi and E. Suhir, “A New Approach to the High-Quality Epitaxial Growth of Lattice - Mismatched Materials”, Applied Physics Letters, 49(3), July 1986.

**1982**

1. E. Suhir, “Shock-Excited Vibrations with Application to the Slamming Response of a Flexible Ship to a Regular Wave Packet”, SNAME J. Ship Research, 26(4), 1982.

***Peer Reviewed Conference Presentations and Publications***

**2022**

1. E.Suhir, "Analytical Modeling in Microelectronics Materials Reliability Problems, Its Role and Significance", Plenary Presentation, Global Expert Meet on Chemical Engineering and Technology, GEMCET22, July 14-16, Las Vegas, NV, USA, July 14, 2022
2. E.Suhir and I.Bedny, " Surgeon’s Performance: An Analogy with Aircraft Pilot's Challenges", Applied-Human-Factors-and-Ergonomics Conference (AHFE), July 25-28, 2022
3. E.Suhir, "Probabilistic Design for Reliability of Microelectronic and Photonic Materials, Devices, Packages and Systems", IEEE Int. Reliability Physics Symp. (IRPS), Dallas, Tx, Tutorial, March 28, 2022

**2021**

1. E.Suhir, "Avoiding Inelastic Strains in Solder Joint Interconnections of IC Packages", Keynote Presentation, ASME InterPACK, Anaheim, CA, USA, Oct.25-28, 2021
2. E. Suhir, “Quantifying the Unquantifiable” in Aerospace Electronics, Mechanical and Ergonomics Engineering", Lobal Summit on Aerospace and Mechanical Engineering (GSEAME), Keynote Presentation, Valencia, Spain, Oct.18-20, 2021
3. E.Suhir, "Burn-in-Testing (BIT) Challenge: to BIT or not to BIT?", Track 1: Manufacturing Optimization, IMAPS, San-Diego, CA, USA, Oct. 11-14, 2021
4. E.Suhir, “When Instrumentation and Human Performance Contribute Jointly to the Outcome of a Human-System-Integration Mission”, Track on System Human Factor and Ergonomics-3, June 18, 7:45-9:15am, Paul Salmon, Track Chair, Paper #150, Session 22L, Gemma Read, Session Chair, 7:45-8:00am, Vancouver, British Columbia, Canada, June 14-18, IEA 2021
5. E. Suhir and G.Paul, “Probabilistic Human-System-Integration (HSI) Models”, Track on Digital Human Modeling and Simulation, June 16, 6:00-7:00am, Gunther Paul, Track Chair, Paper #134, Session 16J, 6:45-7:00am, Vancouver, British Columbia, Canada, June 14-18, IEA 2021
6. E.Suhir, W. Karwowski and I. Bedny, “Some Major Human Issues in Aerospace Engineering: Review and Extension”, Track on Aerospace Human Modeling and Simulation, June 14, 13.00-14:30, Guy-Andre Boy, Track Chair, Paper #154, Session 10J, Aerospace 3, Vancouver, British Columbia, Canada, June 14-18, IEA 2021
7. E.Suhir, “Avoiding Inelastic Strains in Solder Joint Interconnections of IC Devices”, MEMSTECH-2021, Plenary Presentation, May 13, 2021 12:00am-12.40 am Western Ukraine (Polyana) time =2:00am-2:40am USA (San-Francisco) PST
8. E.Suhir, “Predicted Static Fatigue Lifetime of Silica Optical Fiber Interconnects: Application of Multi-Parametric Boltzmann-Arrhenius-Zhurkov Equation”, invited presentation, 5-th IEEE EDTM Conference, Chengdu, China, March 2021

**2020**

1. E.Suhir and S.Scaraglinil, “Extraordinary Automated Driving Situations: Probabilistic Analytical Modeling of Human-Systems-Integration(HSI) and the Role of Trust”, AHFE, 2020
2. E.Suhir, “Survivability of Species in Different Habitats: Application of Multi-Parametric Boltzmann-Arrhenius-Zhurkov Equation”, keynote presentation, Astrophysics and Space Research Conference, ASRC-2020, Singapore, 2020
3. E.Suhir, “Probabilistic Design for Reliability (PDfR) in Electronics and Photonics, and Its Role in Making a Viable IC Package into a Reliable Product”, InterPACK, 2020
4. E.Suhir, “Boltzmann-Arrhenius-Zhurkov (BAZ) Equation and Its Applications In Electronics Materials Reliability Problems”, Advanced Materials Lecture Series, AMLS-6901, 2020
5. E.Suhir, “Electronic-and-Photonic Packaging Engineering: Accelerated Testing and Design-for-Reliability” Invited Presentation, EPTC, Singapore, Dec. 2020

**2019**

1. E.Suhir, “Solder Joint Interconnections in Automotive Electronics: Design-for-Reliability and Accelerated Testing”, IMAPS, Boston, October 1-4, 2019
2. E.Suhir, “Probabilistic Risk Analysis in Aerospace Human-in-the-Loop Tasks: Review and Extension”, Human Systems Integration (HIS-2019) Conf., Biarritz, France, Sept.11 - 13, 2019 (Plenary address)
3. E.Suhir, “Solder Joint Interconnections in Aerospace Electronics: Design-for-Reliability and Accelerated Testing”, IEEE\_MetroAeroSpace Conf., Torino, Italy, June19-21, 2019
4. E. Suhir, “Design-for-Reliability of IC Packages Employing Ceramics, 2019 IEEE-ISSE – Advances in Printed and Ceramic Microsystems”, Wrozlaw, Poland, May 16-17, 2019
5. E.Suhir, “Probabilistic Design for Reliability in Electronics and Photonics: Role, Attributes, Challenges”, Univ. of Illinois at Urbana-Champaign, March 12, 2019
6. E. Suhir, S.Yi, J.Nicolics, “Failure-Oriented-Accelerated-Testing (FOAT) vs. Highly-Accelerated-Life-Testing (HALT): Making a Viable Medical Electron Device (MED) Package into a Reliable Product”, IMAPSWorkshop on Advanced Packaging for Medical Microelectronics, San Diego, California, January 23-25, 2019

**2018**

1. E,Suhir, J.Hwang, R.Ghaffarian, “Elevated Stand-Off Heights in Solder Joint Interconnections of Surface Mounted IC Packages Result in Appreciable Stress and Warpage Relief”, IMAPS Conf., Pasadena, CA, 8-12 Oct., 2018
2. E.Suhir, “Reliability of an Electronic Product Fabricated of Mass-Produced Components”, IMAPS Conf., Pasadena, CA, 8-12 Oct., 2018
3. E. Suhir, “Probabilistic Design for Reliability (PDfR) of Aerospace Instrumentation: Role, Significance, Attributes, Challenges , 5th IEEE International Workshop on Metrology for Aerospac*e (MetroAeroSpace),* Rome, Italy, Plenary Lecture, June 20-22, 2018
4. E. Suhir, S. Yi, “Accelerated Testing and Predicted Useful Lifetime of Medical Electronics”, Handlery Hotel, San-Diego, IMAPS Conf. on Advanced Packaging for Medical Electronics, Jan.23-24, 2017

**2017**

1. E. Suhir, S. Yi, “Elastic Stability of a Dual-Coated Fiber-Optic Connector”, 2017 SPIE Photonics West, Feb.1,San Francisco, published in the SPIE Digital Library as part of the Silicon Photonics XII conference proceedings.
2. E. Suhir, S. Yi,”Thermal Stress in an Optical Silica Fiber Embedded (Soldered) into Silicon”, 2017 SPIE Photonics West, Jan. 31, San Francisco, published in the SPIE Digital Library as part of the proceedings of the Silicon Photonics XII conference.
3. E. Suhir, S. Yi, “Predicted Lattice-Misfit Stresses in a Gallium-Nitride (GaN) Film”, 2017 SPIE Photonics West, Jan.30, San Francisco, published in the SPIE Digital Library as part of the Silicon Photonics XII conference proceedings.
4. E. Suhir, S. Yi, J. Nicolics, L. Bechou, and W.Benhadjala, “How Swiftly Should Be a Product Repaired, so that Its Availability is not Compromised?”, EuroSimE, 2017, Dresden, Germany
5. E.Suhir and S.Yi, “Double Exponential Probability Distribution Function (DEPDF) and Its Applications to Human-in-the-Loop (HITL) Aerospace Problems: When Human Performance Is Imperative, Ability to Quantify It is a Must”*,* Special NDA Session at the AIAA SciTech Conf., Jan. 9-13, 2017, Gaylord Texan Resort & Convention Center
6. E.Suhir and S.Yi, “Design-for-Reliability and Accelerated Testing of Aerospace Electronics: What Should Be Done Differently*”,* Special NDA Session, AIAA SciTech Conf., Jan. 9-13, 2017, Gaylord Texan Resort & Convention Center
7. E.Suhir, S.Yi, J.Nicolics, “Statistics- and Reliability Physics Related Failure Rates”, Int. Reliability Physics Symp. (IRPS), Monterey, April 2-6, 2017
8. E.Suhir, S.Yi, J.Nicolics, “When Equipment Reliability and Human Performance Contribute Jointly to Vehicular Mission Success and Safety, Ability to Quantify Its Outcome is a Imperative”, Int. Reliability Physics Symp. (IRPS), Monterey, April 2-6, 2017

**2016**

1. E. Suhir, S. Yi, “Predicted Thermal Stresses in a TSV Design”, IEEE International 3D Systems Integration Conference (3DIC), San-Francisco, CA, Nov.8-10, 2016
2. E. Suhir, R. Ghaffarian and J.Nicolics, “Could Thermal Stresses in an Inhomogeneous BGA/CGA System be Predicted Using a Model for a Homogeneously Bonded Assembly?”, Journal of Materials Science: Materials in Electronics, v.27, No.1, 2016
3. E.Suhir, S.Yi, “Probabilistic Design for Reliability of Medical Electronic Devices: Role, Significance, Attributes, Challenges”, IEEE Medical Electronics Symp., Portland, OR, Sept. 14-15, 2016
4. E. Suhir, L. Bechou, R. Ghaffarian, J. Nicolics, “Column-Grid-Array (CGA) Technology Could Lead to a Highly Reliable Package Design”, IEEE Aerospace Conference, Big Sky, Montana, March 5-12, 2016
5. E.Suhir, J.Nicolics, and S. Yi, **"Probabilistic Predictive Modeling (PPM) of Aerospace Electronics (AE) Reliability: Prognostic-and-Health-Monitoring (PHM) Effort Using Bayes Formula (BF), Boltzmann-Arrhenius-Zhurkov (BAZ) Equation and Beta-Distribution (BD)", 2016 EuroSimE Conf., Montpelier, France, 2016**
6. E. Suhir, M. Unger, L. Cvitkovich, and J. Nicolics, “Power Core Embedding a Plurality of IC Devices and Sandwiched Between Two Insulated Metal Substrates: Predicted Thermal Stresses”, **2016 EuroSimE Conf., Montpelier, France, 2016**
7. E.Suhir, J.Nicolics, “Aerospace Electronics-and-Photonics (AEP) Reliability Has to be Quantified to be Assured”, AIAA SciTech Conf., San Diego, CA, January 2016

**2015**

1. E. Suhir, A. Bensoussan, J. Nicolics, “Bow-Free Pre-Stressed ALT Specimen”, SAE Conf., Seattle, WA, Sept. 22-24, 2015
2. E. Suhir, "Analytical Modeling Enables One to Explain Paradoxical Situations in the Behavior and Performance of Electronic Materials and Products" (keynote presentation), Int. Conf. on Materials, Processing and Products Engineering (MPPE), Leoben, Austria, Nov. 3-5, 2015
3. E. Suhir, G. Khatibi, J. Nicolics, M. Lederer, "Semiconductor Film Grown on a Circular Substrate: Predictive Modeling of the Lattice-Misfit Stresses”, Ibid.
4. A. Bensoussan, E. Suhir, P. Henderson, M. Zahir, “A Unified Multiple Stress Reliability Model for Microelectronic Devices: Application to 1.55 DFB Laser Diode Module for Space Validation”, ESREF, Toulouse, France, Oct. 2015



1. E. Suhir, A. Bensoussan, “Degradation Related Failure Rate Determined from the Experimental Bathtub Curve”, SAE Conf., Seattle, WA, Sept. 22-24,.2015
2. E. Suhir, “Human-in-the-Loop and Aerospace Navigation Success and Safety: Application of Probabilistic Predictive Modeling”, SAE Conf., Seattle, WA, Sept. 22-24, .2015
3. E. Suhir, “Failure Oriented Accelerated Testing (FOAT), and Its Role in Making a Viable VLSI Device into a Reliable Product, 2015 IEEE VLSI Test Symp. Silverado Resort and Spa, Napa, CA, April 27-29, 2015
4. E. Suhir, A. Bensoussan, G. Khatibi, J. Nicolics, “Probabilistic Design for Reliability in Electronics and Photonics: Role, Significance, Attributes, Challenges”, IRPS, Hyatt Regency Monterey Resort & Spa, Monterey, CA, USA, April 19-23, 2015
5. E. Suhir, “Analytical Stress Modeling for TSVs in 3D Packaging”, Semi-Term, San-Jose, March 15-19, 2015
6. E. Suhir, L. Bechou, “Thermal Stress in an Electronic Package Sandwiched Between Two Identical Substrates”, IEEE Aerospace Conference, Big Sky, Montana, March 5-12, 2015E
7. E. Suhir, “Assessment of Product’s Degradation Rate from the Measured Bathtub Curve Data”, 2015 IEEE Aerospace Conference, Big Sky, Montana, March 5-12, 2015
8. E. Suhir, “Analytical Predictive Modeling in Fiber Optics Structural Analysis: Review and Extension”, SPIE, San-Francisco, February 10, 2015
9. E. Suhir, “Stress Related Aspects of the Physics of GaN Material Growth”, SPIE, San-Francisco, Feb. 10, 2015

**2014**

1. E.Suhir,” Reliability Physics and Probabilistic Design for Reliability (PDfR): Role, Attributes, Challenges” EPTC 2014, Singapore, November 5th, 2014 (invited)
2. G. Khatibi, B.Czerny, J.Magnien, M.Lederer, E.Suhir, J. Nicolics, “Towards Adequate Qualification Testing of Electronic Products: Review and Extension”, EPTC 2014, Singapore, November 5th, 2014 (invited)
3. E. Suhir, A. Bensoussan, “Quantified Reliability of Aerospace Optoelectronics”, SAE Aerospace Systems and Technology Conference, September 23-25 2014 — Cincinnati, OH, USA
4. Z. Remili, Y. Ousten, B. Levrier, D. Mercier, E. Suhir, L. Bechou, “Thermo-mechanical Stress Analysis of Copper/Silicon Interface in Through Silicon Vias using FEM simulations and experimental analysis”, IEEE CPMT ESTC Conference, Helsinki, 2014
5. V. Murashev, S. Legotin, K. Tapero, E.Suhir, “Asynchronous Scanning Photo-receiver Based on Injection-Coupled Device”, 2014 ISROS Conference, June 2014
6. J.-M. Salotti, R. Hedmann, E.Suhir, “ Crew Size Impact on the Design, Risks and Cost of a Human Mission to Mars”, 2014 IEEE Aerospace Conference, Big Sky, Montana, March 2014
7. E.Suhir, A. Bensoussan, L. Bechou, “Aerospace Electronic Packaging: Thermal Stress in Bi- and Tri-Material Assemblies”, 2014 IEEE Aerospace Conference, Big Sky, Montana, March 2014
8. E.Suhir, A.Bensoussan, “Application of Multi-Parametric BAZ Model in Aerospace Optoelectronics”, 2014 IEEE Aerospace Conference, Big Sky, Montana, March 2014
9. E. Suhir, A.Bensoussan, J.Nicolics, L.Bechou, “Highly Accelerated Life Testing (HALT), Failure Oriented Accelerated Testing (FOAT), and Their Role in Making a Viable Device into a Reliable Product”, 2014 IEEE Aerospace Conference, Big Sky, Montana, March 2014
10. J.-M. Salotti, E. Suhir, “Some Major Guiding Principles for Making Future Manned Missions to Mars Safe and Reliable”, 2014 IEEE Aerospace Conference, Big Sky, Montana, March 2014
11. V. N. Murashev, P.A. Ivshin, S.A.Legotin, K. Tapero, E. Suhir, “Injection-coupled Devices (ICDs): Operation Principle, Applications, Design-for-Reliability”, 2014 IEEE Aerospace Conference, Big Sky, Montana, March 2014
12. D. Gucik-Derigny, A. Zolghadri. L. Bechou, E. Suhir, “Prediction of Remaining Useful Life (RUL) of Ball-Grid-Array (BGA) Interconnections During Testing on the Board Level”, 2014 IEEE Aerospace Conference, Big Sky, Montana, March 2014
13. E. Suhir, “Failure-Oriented-Accelerated-Testing (FOAT) and Its Role in Making a Viable Package into a Reliable Product”, SEMI-TERM 2014, San Jose, CA, March 9-13, 2014
14. D. Gucik-Derigny, A. Zolghadri, E. Suhir, L. Bechou, "A Model-Based Prognosis Strategy for Prediction of Remaining Useful Life of Ball-Grid-Array Interconnections", 19th World Congress of the International Federation of Automatic Control, Cape Town, South Africa, August 24-29, 2014

**2013**

1. E. Suhir, L. Bechou, “Saint-Venant’s Principle and the Minimum Length of a Dual-Coated Optical Fiber Specimen in Reliability (Proof) Testing”, ESREF, Arcachon, France, 2013
2. E. Suhir, L. Bechou, A.Bensoussan, J. Nicolics “Photovoltaic Reliability Engineering: Qualification Testing (QT) and Probabilistic Design-for-Reliability (PDfR) Concept”, invited presentation, 2013 SPIE PV Reliability Conference, San Diego CA, August 2013
3. W. Benhadjala, I. Bord-Majek, L. Béchou, E. Suhir, M. Buet, F. Rougé, V. Gaud. and Y. Ousten, “Effect of Processing Factors on Dielectric Properties of BaTiO3/Hyperbranched Polyester Core-Shell Nano-Particles”, ECTC, San Diego, May 2013
4. A. Bensoussan and E. Suhir, “Design-for-Reliability (DfR) of Aerospace Electronics: Attributes and Challenges", 2013 IEEE Aerospace Conference, Big Sky, Montana, March 2013
5. E. Suhir, “Assuring Aerospace Electronics and Photonics Reliability: What Could and Should Be Done Differently”, 2013 IEEE Aerospace Conference, Big Sky, Montana, March 2013
6. E. Suhir, “Predicted Reliability of Aerospace Electronics: Application of Two Advanced Probabilistic Techniques”, 2013 IEEE Aerospace Conference, Big Sky, Montana, March 2013
7. E. Suhir, L .Bechou, B. Levrier, D. Calvez, “Assessment of the Size of the Inelastic Zone in a BGA Assembly”, 2013 IEEE Aerospace Conference, Big Sky, Montana, March 2013
8. E. Suhir, “Elastic Stability of a Dual-Coated Fiber”, SPIE Paper #8621-37, Photonics West, San-Francisco, February 2013

**2012**

1. E.Suhir, “Thermal Stress in Electronics and Photonics: Prediction and Prevention”, Keynote presentation, Therminic, Budapest, September 2012
2. E.Suhir, “Dynamic Response of Electronic Systems to Shocks and Vibrations: Application of Analytical (Mathematical) Modeling”, 2012 DYMAT Conference
3. E. Suhir, R. Mahajan, A. Lucero, L. Bechou, “Probabilistic Design for Reliability (PDfR) and a Novel Approach to Qualification Testing (QT)”, 2012 IEEE/AIAA Aerospace Conf., Big Sky, Montana, 2012
4. B. Nagl, E.Suhir, W. Gschohsmann, J.Nicolics, “Transient Thermo-Mechanical Study of a Thick-Wire Bond with Particular Attention to the Interfacial Shearing Stress”, Int. Spring Seminar on Electronics Technology (ISSE), 09-13, Bad Aussee, Austria, May 2012
5. W. Benhadjala, I. Bord, L. Béchou, E. Suhir, M. Buet, F. Rougé, Y. Ousten, “Novel Core-Shell Nanocomposite for RF Embedded Capacitors: Processing and Characterization”, 2012 ECTC , June 2012

**2011**

1. E.Suhir, "Human-in-the-Loop”: Likelihood of a Vehicular Mission-Success-and-Safety, and the Role of the Human Factor”, Paper ID 1168, 2011 IEEE/AIAA Aerospace Conference, Big Sky, Montana, March 5-12, 2011

**2009**

1. E. Suhir, “Stretchable Electronics: Does One Need a Good Thermal Expansion Match Between the Si Die and the Plastic Carrier?” , IEEE ECTC 2009
2. T. Reinikainen and E.Suhir, “Novel Shear Test Methodology for the Most Accurate Assessment of Solder Material Properties”, IEEE ECTC 2009
3. E. Suhir, “Lateral Compliance and Elastic Stability of a Dual-Coated Optical Fiber of Finite Length, with Application to Nano-Rods Embedded in Low-Modulus Elastic Media”, IEEE ECTC 2009
4. E.Suhir, “Helicopter-Landing-Ship: Undercarriage Strength and the Role of the Human Factor”, ASME OMAE Conference, June 1-9, Honolulu, Hawaii, 2009;

**2008**

1. E. Suhir and S. Savastiuk, “Disc-like Copper Vias Fabricated in a Silicon Wafer: Design for Reliability”, 58-th ECTC 2008

**2007**

1. E. Suhir, “Dynamic Response of Micro-Electronic Structural Elements to Shocks and Vibrations”, Keynote presentation, MicroNanoReliability Congress, Berlin-Koepenick, September 2-5, 2007
2. E. Suhir, “Polymer Coating of Optical Silica Fibers, and a Nanomaterial-Based Coating System”, Keynote Presentation, Polytronic’2007, Proceedings of the International Conference on Polymeric Materials for Micro- and Opto-Electronics Applications, Tokyo, Japan, January 14-16, 2007

**2006**

1. Yi. Zhang, Yuan Xu, Claire Gu and Ephraim Suhir, “Predicted Shear-off Stress in Bonded Assemblies: Review and Extension” ASTR 2006, San Francisco, CA, 2006
2. E. Suhir, “Fiber Optics Structural Mechanics, and a New Generation of Nano-Technology Based Optical Fiber Cladding and Coating”, Invited talk at the Photonics West Conf., and SPIE Publication, 2006
3. E. Suhir, D. Ingman, “Highly Compliant Bonding Material and Structure for Micro- and Opto-Electronic Applications”, ECTC’06 Proceedings, San Diego, May 2006

**2005**

1. E. Suhir, “Analytical Thermal Stress Modeling in Physical Design for Reliability of Micro- and Opto-Electronic Systems: Role, Attributes, Challenges, Results”, Invited Talk, Therminic, 2005, Lago Maggiore, Italy, September 27-30, 2005
2. E. Suhir, “Mechanics of Coated Optical Fibers: Review and Extension”, ECTC’2005, Orlando, Florida, 2005
3. E. Suhir, “Microelectronic and Photonic Systems: Role of Structural Analysis”, InterPack’2005 Conference, San Francisco, July 2005
4. E. Suhir, “New Nano-Particle Material (NPM) for Micro- and Opto-Electronic Packaging Applications”, IEEE Workshop on Advanced Packaging Materials, Irvine, March 2005.

**2004**

1. E. Suhir, “Bow-Free Assemblies: Predicted Stresses”, Therminic’2004, Niece, France, Sept. 29-Oct.1, 2004
2. E. Suhir, “Polymer Coated Optical Glass Fiber Reliability: Could Nano-Technology Make a Difference?”, Polytronic’04, Portland, OR, September 13-15, 2004

**2003**

1. E. Suhir, “Thermal Stress Modeling in Micro- and Opto-Electronics: Review and Extension”, Invited Presentation, ASME Symposium Dedicated to Dr. Richard Chu, IBM, Washington, DC, November 2003
2. E. Suhir, “Polymer Coated Optical Glass Fibers: Review and Extension”, Proceedings of the POLYTRONIK’2003, Montreaux, October 21-24, 2003.
3. E. Suhir, V.Ogenko, D. Ingman, “Two-Point Bending of Coated Optical Fibers”, Proceedings of the PhoMat’2003 Conference, San-Francisco, CA, August 2003
4. E. Suhir, “How to Make a Photonic Device Into a Product: Role of Accelerated Life Testing”, Keynote Address at the International Conference of Business Aspects of Microelectronic Industry, Hong-Kong, China, January 2003.

**2002**

1. E.Suhir, “Could Shock Tests Adequately Mimic Drop Test Conditions?”, IEEE ECTC Conference Proceedings, San-Diego, CA, May 28-31, 2002

**2001**

1. E. Suhir, “Adequate Underkeel Clearance (UKC) for a Ship Passing a Shallow Waterway: Application of the Extreme Value Distribution (EVD)”, Proceedings of OMAE2001 Conference, Paper OMAE2001/S&R-2113, Rio de Janeiro, Brazil, 2001

**2000**

1. A. Katz, M. Pecht, E. Suhir, “Accelerated Testing in Microelectronics: Review, Pitfalls and New Developments”, Proceedings of the International Symposium on Microelectronics and Packaging, IMAPS, Israel, 2000
2. E.Suhir, “The Future of Microelectronics and Photonics, and the Role of Mechanical, Materials and Reliability Engineering”, Proc. Int. Conf. on Materials in Microelectronics, MicroMat 2000, April 17-19,2000, Berlin, Germany
3. E.Suhir, “Silica Optical Fiber Interconnects: Design for Reliability”, Proceedings of the Annual Conference of the American Ceramic Society, St.-Louis, MO, May 3, 2000

**1999**

1. E.Suhir, “Elastic Stability of the Glass Fibers in a Micromachined Fiber-Optic Switch Packaged into a Dual-in-Line Ceramic Package”, ECTC, 1999

**1998**

1. E. Suhir, “Coated Optical Fiber Interconnect Subjected to the Ends Off-Set and Axial Loading”, International Workshop on Reliability of Polymeric Materials and Plastic Packages of IC Devices, Paris, Nov. 29- Dec.2, 1998, ASME Press, 1998.
2. E. Suhir, “Critical Strain and Postbuckling Stress in Polymer Coated Optical Fiber Interconnect: What Could Be Gained by Using Thicker Coating?”, International Workshop on Reliability of Polymeric Materials and Plastic Packages of IC Devices, Paris, Nov. 29- Dec.2, 1998, ASME Press, 1998.
3. E. Suhir, “Bending Stress in an Optical Fiber Interconnect Experiencing Significant Ends Off-Set”, MRS Symp. Proc., vol. 531, 1998.
4. E. Suhir, “Optical Fiber Interconnect Subjected to a Not-Very-Small Ends Off-Set: Effect of the Reactive Tension”, MRS Symposia Proceedings, vol. 531, 1998.
5. E. Suhir, “’Optical Glass Fiber Bent on a Cylindrical Surface”, MRS Symposia Proceedings, vol.531, 1998.

**1997**

1. E. Suhir, “Dynamic Response of Microelectronics and Photonics Systems to Shocks and Vibrations”, Proc. of the Int. Conf. on Microelectronics and Photonics Packaging, INTERPack’97, Hawaii, June 15-19, 1997.
2. E. Suhir, “Effect of Plastic Package Geometry on Its Propensity to Moisture Induced Failure”, IMAPS/NATO Workshop Proceedings, Bled, Slovenia, 1997
3. E. Suhir, “The Future of Microelectronics and Photonics and the Role of Mechanics and Materials”, Proceedings of the Electronic Packaging and Technology Conf., EPTC’97, Singapore, October 1997.
4. E. Suhir, "Bending of a Partially Coated Glass Fiber Subjected to the Ends Off-Set", Proc. of the 47-th Electr. Comp. and Techn. Conference, IEEE, San Jose, CA, May 1997, see also IEEE CPMT Transactions, June 1997.
5. E. Suhir, “Solder Materials and Joints in Fiber Optics: Reliability Requirements and Predicted Stresses”, Proc. of the Int. Symposium on “Design and Reliability of Solders and Solder Interconnections”, Orlando, Fl., February 1997.
6. M. Uschitsky and E. Suhir, “Moisture Diffusion in Epoxy Molding Compounds Filled With Silica Particles”, in E. Suhir, ed., “Structural Analysis in Microelectronics and Fiber Optics”, ASME Press, 1997.

**1996**

1. B. Welker, M. Uschitsky, E. Suhir, S. Kher, and G. Bubel, “Finite Element Analysis of the Optical Fiber Structures”, in E. Suhir, ed., “Structural Analysis in Microelectronics and Fiber Optics”, Symp. Proceedings, ASME Press, 1996
2. E. Suhir, “Flex Circuit vs Regular” Substrate: Predicted Reduction in the Shearing Stress in Solder Joints”, Proc. of the 3-rd Int. Conf. on Flexible Circuits FLEXCON 96, San-Jose, CA, Oct. 1996.
3. M. Uschitsky, E. Suhir, L. Shepherd, W.R. Lambert, and M.A. Zimmerman, “Predicted Dynamic Strength and Durability of a Network Interface Unit (NIU) Enclosure”, in E. Suhir, ed., Structural Analysis in Microelectronics and Fiber Optics”, Symposium Proceedings, ASME Press, 1996.
4. E. Suhir, and Q.S.M. Ilyas, ““Thick” Plastic Packages With “Small” Chips vs “Thin” Packages With “Large” Chips: How Different is Their Propensity to Moisture Induced Failures?”, in E. Suhir, ed., “Structural Analysis in Micro-electronics and Fiber Optics”, Symposium Proceedings, ASME Press, 1996.
5. M. Uschitsky, and E. Suhir, “Predicted Thermally Induced Stresses in an Epoxy Molding Compound at the Chip Corner”, in E. Suhir, ed., “Structural Analysis in Microelectronics and Fiber Optics”, Symposium Proceedings, ASME Press, 1996.

**1995**

1. M. Uschitsky, E. Suhir, S. Kher, and G. Bubel, “Epoxy Bonded Optical Fibers: the Effect of Voids on Stress Concentration in the Epoxy Material”, in E. Suhir, ed., “Structural Analysis in Microelectronic and Fiber Optic Systems”, Symposium Proceedings, ASME Press, 1995.
2. E. Suhir, “Predicted Failure Criterion (von-Mises Stress) in Plastic Packages During High Temperature Reflow Soldering”, 45-th ECTC Proceedings, Las Vegas, May 1995.
3. E. Suhir, V. Mishkevich, and J. Anderson, “How Large Should a Periodic External Load Be to Cause Appreciable Microbending Losses in a Dual-Coated Optical Fiber?”, in E. Suhir, ed., “Structural Analysis in Microelectronics and Fiber Optics”, Symposium Proceedings, ASME Press, 1995.
4. E. Suhir, “Global” and “Local” Thermal Mismatch Stresses in an Elongated Bi-Material Assembly Bonded at the Ends”, in E. Suhir, ed., “Structural Analysis in Microelectronic and Fiber-Optic Systems”, Symposium Proceedings, ASME Press, 1995.
5. E.Suhir, "Shock Protection with a Non-Linear Spring", IEEE CPMT Transactions, Part A, 18(2), June 1995

**1993**

1. E. Suhir, “Mechanical Reliability of Flip-Chip Interconnections in Silicon-on-Silicon Multichip Modules”, IEEE Conference on Multichip Modules, IEEE, Santa Cruz, Calif., March 1993.
2. E. Suhir, “Flip-Chip Solder Joint Interconnections and Encapsulants in Silicon-on-Silicon MCM Technology: Thermally Induced Stresses and Mechanical Reliability,” Proceedings of IEEE Multi-Chip Modulus Conference MCM-93*,* 1993
3. E. Suhir, “Predicted Interfacial Shearing Stress in Dual-Coated Optical Fiber Specimens Subjected to Tension”, Part 2, “The Case of a Specimen Embedded into Epoxy”, ANTEC-93, May 1993, SPE, New Orleans, Louisiana.
4. E. Suhir, “Predicted Interfacial Shearing Stress in Dual-Coated Optical Fiber Specimens Subjected to Tension”, Part 1, “The Case of a Cylindrical Double Lap Shear Joint”, ANTEC-93, May 1993, SPE, New Orleans, Louisiana.

**1992**

1. E. Suhir and T. M. Sullivan, “Novel Technique for the Evaluation of the Adhesive Strength of the Epoxy Molding Compounds Used in Plastic Packaging”, 42-nd IEEE ECTC, San-Diego, Calif., May 1992.
2. E. Suhir, “Mechanical Behavior and Reliability of Solder Joint Interconnections in Thermally Matched Assemblies”, 42-nd Electr. Comp. and Techn. Conf., IEEE, San-Diego, Calif., May 1992.
3. E. Suhir, “Predicted Bow of Plastic Packages of Integrated Circuit (IC) Devices”, 50-th SPE Conf., SPE, Detroit, MI, May 1992.

**1991**

1. E. Suhir, “Nonlinear Dynamic Response of a Flexible Printed Circuit Board to Shock Loads Applied to Its Support Contour”, 41-st Elect. Comp. and Techn. Conf., IEEE, Atlanta, Georgia, May 1991.
2. E. Suhir, “Mechanical Behavior of Materials in Microelectronic and Fiber Optic Systems: Application of Analytical Modeling-Review”, MRS Symposia Proc., vol. 226, 1991.

**1990**

1. E. Suhir and B. Poborets, “Solder Glass Attachment in Cerdip/Cerquad Packages: Thermally Induced Stresses and Mechanical Reliability”, 40th Elect. Comp. and Techn. Conf., Las Vegas, Nevada, May 1990;

**1989**

1. E. Suhir, “Calculated Stresses in Microelectronic and Fiber-Optic Structures”, Proc. of the 1st Pan American Congress of Applied Mechanics, American Academy of Mechanics, Rio de Janeiro, Brazil, January 1989.
2. E. Suhir, “Mechanical Behavior of Materials in Microelectronic and Fiber-Optic Systems: Application of Analytical Modeling-Review”, ASME 89-WA/EEP-16, 1989 Winter Annual Meeting, San-Francisco, December 1989.
3. E. Suhir, “Thermally Induced Stresses in Elongated Bi-Material Plates”, Applied Mechanics Reviews, 1989 Supplement, “Mechanics Pan America 1989, Selected and Revised Proceedings of the January 1989 Rio de Janeiro Pan American Congress of Applied Mechanics, C. R. Steele, A. W. Leissa and M. R. M. Crespo de Silva, eds., 42(11), part 2, Nov. 1989.

**1988**

1. E. Suhir and J. M. Segelken, "Mechanical Behavior of Flip-Chip Encapsulants”, Semicon/East Technical Proc., Semiconductor Equipment and Materials International, Boston, Mass., Sept. 1988.
2. E. Suhir, “Could Compliant External Leads Reduce the Strength of a Surface Mounted Device?”, Proc. of the 38th Electr. Comp. Conf., IEEE, Los Angeles, Calif., May 1988.
3. E. Suhir, “Calculated Stresses in Dual-Coated Fibers”, Proc. of the SPE 46th Annual Technical Conference, ANTEC '88, Atlanta, Georgia, May 1988.

**1987**

1. E. Suhir, “Die Attachment Design and Its Influence on the Thermally Induced Stresses in the Die and the Attachment”, Proc. of the 37th Elect. Comp. Conf., IEEE, Boston, Mass., May 1987.
2. E. Suhir and W. E. Benedetto, “Mechanical Behavior of the “Euler” Test Probe”, Preprint ASME 87-WA/EEP-5, 1987 Winter Annual Meeting, Boston, Mass., Dec. 1987.

**1986**

1. E. Suhir, “Calculated Thermally Induced Stresses in Adhesively Bonded and Soldered Assemblies”, Proc. of the Int. Symp. on Microelectronics, ISHM, 1986, Atlanta, Georgia, Oct. 1986.
2. E. Suhir, “Stresses in Adhesively Bonded Bi-material Assemblies used in Electronic Packaging,” Proceedings of the Electronic Packaging Materials Science Symposium II, Palo Alto, California, USA, April 15-18, 1986.

**1985**

1. E. Suhir, “Linear and Nonlinear Vibrations Caused by Periodic Impulses”, AIAA/ASME/ASCE/AHS 26th Structures, Structural Dynamics and Materials Conference, Orlando, Florida, April 1985.

***Articles in Trade Magazines***

1. E.Suhir, “Design-for-Reliability and Accelerated-Testing of Solder Joint Interconnections”, Chip Scale Reviews, Nov.-Dec. 2019
2. E.Suhir, “Burn-in: When, For How Long and at What Level” Chip Scale Reviews, Oct. 2019
3. E. Suhir, “Relieving Stress in Flip-Chip Solder Joints”, Chip Scale Reviews, v.21, No.5, Sept.-Oct., 2017
4. E.Suhir, “Avoiding Low-Cycle Fatigue in Solder Material Using Inhomogeneous Column-Grid-Array (CGA) Design”, ChipScale Reviews, March-April 2016
5. E. Suhir, “Electronics Reliability Cannot Be Assured, if it is not Quantified”, Chip Scale Reviews, March-April, 2014
6. E.Suhir, “The Role of Failure-Oriented-Accelerated-Testing for Field Functional IC Packages”, Circuits Assembly, July 01, 2013
7. E. Suhir, L. Bechou, “Availability Index and Minimized Reliability Cost”, Circuit Assemblies, February 2013
8. E. Suhir, L. Bechou, A.Bensoussan, “Technical Diagnostics in Electronics: Application of Bayes Formula and Boltzmann-Arrhenius-Zhurkov Model”, Circuit Assembly, December 3, 2012
9. E. Suhir, “Electronic Product Qual Specs Should Consider Its Most Likely Application(s)”, Chip Scale Reviews, November 2012
10. E.Suhir, “Predictive Modeling is a Powerful Means to Prevent Thermal Stress Failures in Electronics and Photonics”, Chip Scale Reviews, vol.15, No.4, July-August 2011
11. E. Suhir, R. Mahajan, “Are Current Qualification Practices Adequate?“, Circuit Assembly, April 2011
12. E. Suhir, “Probabilistic Design for Reliability”, Chip Scale Reviews, vol.14, No.6, 2010
13. E. Suhir, “Reliability and Accelerated Life Testing”, Semiconductor International, February 1, 2005.
14. E.Suhir, “Inventive Leadership: Could a Good Engineer Become a Good Entrepreneur?”, ASME Mechanical Engineering, November 2005
15. E.Suhir, “Crossing the Lines, or Should We Just Mind Our Own Business?”, Feature Article, ASME Mechanical Engineering, 2004
16. E.Suhir, “Analytical Stress-Strain Modeling in Photonics Engineering: Its Role, Attributes and Interaction with the Finite-Element Method”, Laser Focus World, May 2002.
17. E. Suhir, “Thermo-Mechanical Stress Modeling in Microelectronics and Photonics”, Electronics Cooling, 7(4), 2001
18. E. Suhir, “Thermal Stress Failures in Microelectronics and Photonics: Prediction and Prevention”, Future Circuits International, issue 5, 1999