



OPTIC 2021

Optics & Photonics Taiwan International Conference
26th Annual Meeting of MOST Photonics Program
2021 Annual Meeting of Taiwan Photonics Society

OPTIC 2021 General Assembly Manual Erracing and Amendment Notice

Dear OPTIC 2021 Contributors,

Due to a system error that resulted in a lack of information for some contributors, OPTIC 2021 Submission Paper Information Errata has now been rounded up and updated to the General Assembly Manual (see attached file), in particular by issuing this notice statement.



Chyi-Da Yang
Technical Program Committee Chair, OPTIC 2021



OPTIC 2021 Submission Paper Information Errata

Before correction	After correction
<p>2021-THU-S0101-O003</p> <p>• 13:45</p> <p>Modeling and Characterization of Asymmetric Quarter-Wave-Shifted DFB Based Electro-absorption Modulated Lasers for 400-Gb/s and Above Optical Interconnects</p> <p>Siti Sulikhah^{1*}, San Lee¹, Hen Tsao², ¹<i>National Taiwan University of Science and Technology Taipei</i>, ²<i>National Taiwan University Taipei</i>.</p>	<p>2021-THU-S0101-O003</p> <p>• 13:45</p> <p>Modeling and Characterization of Asymmetric Quarter-Wave-Shifted DFB Based Electro-absorption Modulated Lasers for 400-Gb/s and Above Optical Interconnects</p> <p>Siti Sulikhah^{1*}, San Liang Lee¹, Hen Wai Tsao², ¹<i>National Taiwan University of Science and Technology Taipei</i>, ²<i>National Taiwan University Taipei</i>.</p>
<p>2021-THU-S0102-O002</p> <p>• 15:30</p> <p>The Observation of Two-Color Emission in Layered Dual-Phase Gallium Telluride</p> <p>Luthviah Muhimmah^{1*}, Ching-Hwa Ho¹, ¹<i>National Taiwan University of Science and Technology Taipei</i>.</p>	<p>2021-THU-S0102-O002</p> <p>• 15:30</p> <p>The Observation of Two-Color Emission in Layered Dual-Phase Gallium Telluride</p> <p>Luthviah Choirotul Muhimmah^{1*}, Ching-Hwa Ho¹, ¹<i>National Taiwan University of Science and Technology Taipei</i>.</p>
<p>2021-FRI-S0103-O005</p> <p>• 11:45</p> <p>Versatile Wafer-Scale Nanofabrication of Functional Metasurfaces</p> <p>Ming Lun Tseng^{1,2*}, Aleksandrs Leitis², Aurelian John-Herpin², Yuri Kivshar³, Hatice Altug², ¹<i>National Yang Ming Chiao Tung University Hsinchu</i>, ²<i>École Polytechnique Fédérale de Lausanne (EPFL) Lausanne</i>, ³<i>Australian National University Canberra</i>.</p>	<p>2021-FRI-S0103-O005</p> <p>• 11:45</p> <p>Versatile Wafer-Scale Nanofabrication of Functional Metasurfaces</p> <p>Ming Lun Tseng^{1,2*}, Aleksandrs Leitis², Aurelian John-Herpin², Yuri S. Kivshar³, Hatice Altug², ¹<i>National Yang Ming Chiao Tung University Hsinchu</i>, ²<i>École Polytechnique Fédérale de Lausanne (EPFL) Lausanne</i>, ³<i>Australian National University Canberra</i>.</p>
<p>2021-FRI-S0104-O004</p> <p>• 14:15</p> <p>Design of a high figure-of-merit plasmonic sensor based on an aluminum/silver/gold multilayer sensing structure</p> <p>Samuel Surya Mandala^{1*}, Mochamad Januar¹, Michael Grady¹, Kou-Chen Liu^{1,2}, ¹<i>Chang Gung University Taoyuan City</i>, ²<i>Chang Gung Memorial Hospital Linkou</i>.</p>	<p>2021-FRI-S0104-O004</p> <p>• 14:15</p> <p>Design of a high figure-of-merit plasmonic sensor based on an aluminum/silver/gold multilayer sensing structure</p> <p>Samuel Husin Surya Mandala^{1*}, Mochamad Januar¹, Michael Grady¹, Kou-Chen Liu^{1,2}, ¹<i>Chang Gung University Taoyuan City</i>, ²<i>Chang Gung Memorial Hospital Linkou</i>.</p>
<p>2021-SAT-S0105-O001</p> <p>• 09:00</p> <p>Optical and Electrical Properties of Selenium-Doped Zirconium Dichalcogenides ZrS₂-xSex (x = 0, 1, 2) Grown by Chemical Vapor Transport</p> <p>THALITA HERNINDA^{1*}, CHING-HWA HO¹, ¹<i>National Taiwan University of Science and Technology TAIPEI</i>.</p>	<p>2021-SAT-S0105-O001</p> <p>• 09:00</p> <p>Optical and Electrical Properties of Selenium-Doped Zirconium Dichalcogenides ZrS₂-xSex (x = 0, 1, 2) Grown by Chemical Vapor Transport</p> <p>THALITA MAYSHA HERNINDA^{1*}, CHING-HWA HO¹, ¹<i>National Taiwan University of Science and Technology TAIPEI</i>.</p>
<p>2021-FRI-P0101-P015</p> <p>Construction of Flexible Plasmonic Ag-NPs/PMMA Substrates Using Chemically Patterned Ferroelectric Crystals for Detection of Parathion</p> <p>Nazar Barveen^{1*}, Tzyy-Jiann Wang¹, Zhe-Yuan Liu¹, ¹<i>National Taipei University of Technology Taipei</i>.</p>	<p>2021-FRI-P0101-P015</p> <p>Construction of Flexible Plasmonic Ag-NPs/PMMA Substrates Using Chemically Patterned Ferroelectric Crystals for Detection of Parathion</p> <p>Nazar Riswana Barveen^{1*}, Tzyy-Jiann Wang¹, Zhe-Yuan Liu¹, ¹<i>National Taipei University of Technology Taipei</i>.</p>
<p>2021-SAT-P0102-P012</p> <p>Synthesis of ZnO Multipods Decorated with Ag Nanospheres for SERS Detection of Nitrophenol</p> <p>Elumalai Kumar^{1*}, Yu-Hsu Chang², Tzyy-Jiann Wang¹, ¹<i>National Taipei University of Technology Taipei</i>, ²<i>National Taipei University of Technology Taipei</i>.</p>	<p>2021-SAT-P0102-P012</p> <p>Synthesis of ZnO Multipods Decorated with Ag Nanospheres for SERS Detection of Nitrophenol</p> <p>Elumalai Ashok Kumar^{1*}, Yu-Hsu Chang², Tzyy-Jiann Wang¹, ¹<i>National Taipei University of Technology Taipei</i>, ²<i>National Taipei University of Technology Taipei</i>.</p>
<p>2021-THU-S0202-O004</p> <p>• 16:30</p> <p>High-power broadband high-extinction ratio polarization III-V superluminescent diode coupled to a Si waveguide in Si photonics template</p>	<p>2021-THU-S0202-O004</p> <p>• 16:30</p> <p>High-power broadband high-extinction ratio polarization III-V superluminescent diode coupled to a Si waveguide in Si photonics template</p>

Chen Weng ^{1*} , Yi Chiu ¹ , ¹ <i>National Sun Yat-Sen University Kaohsiung.</i>	Chen Yu Weng ^{1*} , Yi Jen Chiu ¹ , ¹ <i>National Sun Yat-Sen University Kaohsiung.</i>
2021-SAT-S0205-O002 • 09:15 Phase Error Correction and Optimization of Optical Phased Arrays Based on Genetic Algorithm Harjuno Hutomo ¹ , Santoshi Neralla ^{1*} , Tsung Lee ¹ , San Lee ¹ , ¹ <i>National Taiwan University of Science and Technology Taipei.</i>	2021-SAT-S0205-O002 • 09:15 Phase Error Correction and Optimization of Optical Phased Arrays Based on Genetic Algorithm Harjuno Hutomo ¹ , Santoshi Rupa Gayatri Neralla ^{1*} , Tsung Han Lee ¹ , San Liang Lee ¹ , ¹ <i>National Taiwan University of Science and Technology Taipei.</i>
2021-SAT-S0306-O001 • 10:45 Ultrashort pulse laser compression using deformable mirror Chang Yu ^{1*} , Chang Yuan ¹ , Chang Chi ¹ , ¹ <i>National Cheng Kung University tainan.</i>	2021-SAT-S0306-O001 • 10:45 Ultrashort pulse laser compression using deformable mirror Chang Shu Yu ^{1*} , Chang Chia Yuan ¹ , Chang Jui Chi ¹ , ¹ <i>National Cheng Kung University tainan.</i>
2021-THU-S0402-O005 • 16:15 3D Micropatterned Multiphoton Stimulation via Deep Learning-Based Computer-Generated Holography with Temporal Focusing Confinement Liang-Wei Chen ^{1*} , Hua-Wei Ku ¹ , Feng-Chun Hsu ¹ , Chun-Yu Lin ¹ , Yvonne Hu ² , Shean-Jen Chen ^{1,3} , ¹ <i>National Yang Ming Chiao Tung University Tainan</i> , ² <i>National Cheng Kung University Tainan</i> , ³ <i>National Applied Research Laboratories Hsinchu.</i>	2021-THU-S0402-O005 • 16:15 3D Micropatterned Multiphoton Stimulation via Deep Learning-Based Computer-Generated Holography with Temporal Focusing Confinement Liang-Wei Chen ^{1*} , Hua-Wei Ku ¹ , Feng-Chun Hsu ¹ , Chun-Yu Lin ¹ , Yvonne Yuling Hu ² , Shean-Jen Chen ^{1,3} , ¹ <i>National Yang Ming Chiao Tung University Tainan</i> , ² <i>National Cheng Kung University Tainan</i> , ³ <i>National Applied Research Laboratories Hsinchu.</i>
2021-SAT-P0402-P014 Optimization of LED Mosquito Trapping System for Efficiency Enhancement Chang Chen ^{1*} , ¹ <i>National Kaohsiung University of Technology, Kaohsiung 80778, Taiwan Taiwan Kaohsiung.</i>	2021-SAT-P0402-P014 Optimization of LED Mosquito Trapping System for Efficiency Enhancement Chang Jui Chen ^{1*} , ¹ <i>National Kaohsiung University of Technology, Kaohsiung 80778, Taiwan Taiwan Kaohsiung.</i>
2021-SAT-P0402-P006 Study of F-Theta telecentric lens for ultraviolet Laser scanning system Huy Nguyen ^{1,2*} , Yi Lee ¹ , Lanh Le ³ , ¹ <i>National Kaohsiung University of Science and Technology Kaohsiung</i> , ² <i>Nha Trang University Nha Trang</i> , ³ <i>Dong Nai Technology University Bien Hoa.</i>	2021-SAT-P0402-P006 Study of F-Theta telecentric lens for ultraviolet Laser scanning system Huy Xuan Nguyen ^{1,2*} , Yi Hsiao Lee ¹ , Lanh Thanh Le ³ , ¹ <i>National Kaohsiung University of Science and Technology Kaohsiung</i> , ² <i>Nha Trang University Nha Trang</i> , ³ <i>Dong Nai Technology University Bien Hoa.</i>
2021-THU-S0501-O006 • 14:30 Precise Mid-field Modeling for UVC LEDs by using Fluorescent Film Ngoc Le ^{1*} , Shih-Kang Lin ¹ , Ching-Cherng Sun ^{1,2} , Chi-Shou Wu ¹ , Tsung-Hsun Yang ¹ , Yeh-Wei Yu ¹ , ¹ <i>National Central University TaoYuan</i> , ² <i>National Yang Ming Chiao Tung Hsin-Chu.</i>	2021-THU-S0501-O006 • 14:30 Precise Mid-field Modeling for UVC LEDs by using Fluorescent Film Ngoc Thi Thu Le ^{1*} , Shih-Kang Lin ¹ , Ching-Cherng Sun ^{1,2} , Chi-Shou Wu ¹ , Tsung-Hsun Yang ¹ , Yeh-Wei Yu ¹ , ¹ <i>National Central University TaoYuan</i> , ² <i>National Yang Ming Chiao Tung Hsin-Chu.</i>
2021-THU-S0501-O001 • 13:15 Far-field Optical Manipulation with Low Power Illumination via Archimedean Spiral Plasmonic Lens with Single Circular Groove (CG-ASPL) Fitri Oktafiani ^{1*} , Jun Chen ¹ , Po Lee ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-THU-S0501-O001 • 13:15 Far-field Optical Manipulation with Low Power Illumination via Archimedean Spiral Plasmonic Lens with Single Circular Groove (CG-ASPL) Fitri Oktafiani ^{1*} , Jun Quan Chen ¹ , Po Tsung Lee ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>
2021-THU-S0502-O006 • 16:30 Detection of PM2.5 and PM10 Concentration Using Hyperspectral Imaging Arvind Mukundan ^{1*} , Chi Chen ² , Yu Tseng ¹ , Hsiang Wang ¹ , ¹ <i>National Chung Cheng University Chiayi</i> , ² <i>Ditmanson Medical Foundation Chia-yi Christian Hospital Chia-yi City.</i>	2021-THU-S0502-O006 • 16:30 Detection of PM2.5 and PM10 Concentration Using Hyperspectral Imaging Arvind Mukundan ^{1*} , Chi -Wen Chen ² , Yu -Sheng Tseng ¹ , Hsiang -Chen Wang ¹ , ¹ <i>National Chung Cheng University Chiayi</i> , ² <i>Ditmanson Medical Foundation Chia-yi Christian Hospital Chia-yi City.</i>

<p>2021-SAT-S0506-O002</p> <p>• 11:00</p> <p>24-hour lighting to Aid Sleep Patterns for Persons Living with Dementia</p> <p>Bao Le^{1*}, Jonathon White¹, ¹<i>Yuan Ze University Zhong Li.</i></p>	<p>2021-SAT-S0506-O002</p> <p>• 11:00</p> <p>24-hour lighting to Aid Sleep Patterns for Persons Living with Dementia</p> <p>Bao Le^{1*}, Jonathon David White¹, ¹<i>Yuan Ze University Zhong Li.</i></p>
<p>2021-FRI-P0501-P013</p> <p>Optimization of LED Mosquito Trap Systems</p> <p>Chang Chen^{1*}, ¹<i>National Kaohsiung University of Technology, Kaohsiung 80778, Taiwan Taiwan Kaohsiung.</i></p>	<p>2021-FRI-P0501-P013</p> <p>Optimization of LED Mosquito Trap Systems</p> <p>Chang Jui Chen^{1*}, ¹<i>National Kaohsiung University of Technology, Kaohsiung 80778, Taiwan Taiwan Kaohsiung.</i></p>
<p>2021-THU-S0602-O005</p> <p>• 16:45</p> <p>Analysis of Collagen Types I & II at Bone Fracture Healing Tissue Using Polarization-SHG</p> <p>Anupama Nair^{1*}, Chi-Hsiang Lien², Chung-Hwan Chen³, Shu-Chun Chuang³, Yi-Shan Lin³, Shean-Jen Chen¹, ¹<i>National Yang Ming Chiao Tung University Tainan</i>, ²<i>National United University Miaoli</i>, ³<i>Kaohsiung Medical University Kaohsiung.</i></p>	<p>2021-THU-S0602-O005</p> <p>• 16:45</p> <p>Analysis of Collagen Types I & II at Bone Fracture Healing Tissue Using Polarization-SHG</p> <p>Anupama Venugopalan Nair^{1*}, Chi-Hsiang Lien², Chung-Hwan Chen³, Shu-Chun Chuang³, Yi-Shan Lin³, Shean-Jen Chen¹, ¹<i>National Yang Ming Chiao Tung University Tainan</i>, ²<i>National United University Miaoli</i>, ³<i>Kaohsiung Medical University Kaohsiung.</i></p>
<p>2021-FRI-P0601-P006</p> <p>Nitride-based substrate for DNA microarray by SERS</p> <p>Nguyet Nguyen^{1*}, Kun-Yu Lai¹, ¹<i>National Central University Zhongli, Taoyuan.</i></p>	<p>2021-FRI-P0601-P006</p> <p>Nitride-based substrate for DNA microarray by SERS</p> <p>Nguyet Thi Anh Nguyen^{1*}, Kun-Yu Lai¹, ¹<i>National Central University Zhongli, Taoyuan.</i></p>
<p>2021-SAT-P0602-P008</p> <p>Fabrication of MoS2 Biosenor and Analysis of Photoelectrochemical Response of Lung Cancer Cell</p> <p>Pei-Ching Chen^{1*}, Wei-Yi Lai¹, Hsiang-Chen Wang¹, Vladimir Fedorov^{2,3}, ¹<i>National Chung Cheng University Chia Yi</i>, ²<i>Nikolaev Institute of Inorganic Chemistry Novosibirsk</i>, ³<i>Novosibirsk State University Novosibirsk.</i></p>	<p>2021-SAT-P0602-P008</p> <p>Fabrication of MoS2 Biosenor and Analysis of Photoelectrochemical Response of Lung Cancer Cell</p> <p>Pei-Ching Chen^{1*}, Wei-Yi Lai¹, Hsiang-Chen Wang¹, Vladimir E. Fedorov^{2,3}, ¹<i>National Chung Cheng University Chia Yi</i>, ²<i>Nikolaev Institute of Inorganic Chemistry Novosibirsk</i>, ³<i>Novosibirsk State University Novosibirsk.</i></p>
<p>2021-SAT-P0602-P011</p> <p>Identify Early Esophageal Cancer By Intelligent Band Selection of Hyperspectral Image</p> <p>SHIH HONG^{1*}, Hsiang-Chen Wang¹, Yao-Kuang Wang², ¹<i>National Chung Cheng University ChiaYi</i>, ²<i>Kaohsiung Medical University Hospital Kaohsiung.</i></p>	<p>2021-SAT-P0602-P011</p> <p>Identify Early Esophageal Cancer By Intelligent Band Selection of Hyperspectral Image</p> <p>SHIH SIAN HONG^{1*}, Hsiang-Chen Wang¹, Yao-Kuang Wang², ¹<i>National Chung Cheng University ChiaYi</i>, ²<i>Kaohsiung Medical University Hospital Kaohsiung.</i></p>
<p>2021-SAT-P0602-P015</p> <p>Monitoring bed occupancy and sleep using pressure sensors, accelerometry, and passive infrared sensors</p> <p>Gulsatar Ali^{1*}, Yeh-Liang Hsu², Jonathon White¹, ¹<i>Yuan Ze University Zhongli</i>, ²<i>Yuan Ze University Zhongli.</i></p>	<p>2021-SAT-P0602-P015</p> <p>Monitoring bed occupancy and sleep using pressure sensors, accelerometry, and passive infrared sensors</p> <p>Gulsatar Ali^{1*}, Yeh-Liang Hsu², Jonathon David White¹, ¹<i>Yuan Ze University Zhongli</i>, ²<i>Yuan Ze University Zhongli.</i></p>
<p>2021-FRI-S0803-O003</p> <p>• 11:45</p> <p>Developing An Evaluation Function For A Neural Network To Optimize Healthy Lighting</p> <p>Md Ansari^{1,2*}, Bao Le¹, Thiyam Beeta², Jonathon White¹, ¹<i>Yuan Ze University Zhong-Li</i>, ²<i>Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology Chennai.</i></p>	<p>2021-FRI-S0803-O003</p> <p>• 11:45</p> <p>Developing An Evaluation Function For A Neural Network To Optimize Healthy Lighting</p> <p>Md Azaharuddin Ansari^{1,2*}, Bao Le¹, Thiyam Deepa Beeta², Jonathon David White¹, ¹<i>Yuan Ze University Zhong-Li</i>, ²<i>Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology Chennai.</i></p>
<p>2021-FRI-S0804-O006</p> <p>• 14:15</p> <p>Thermal Characteristics of Diamond Powder Mix with Colloidal Quantum Dot LEDs Package</p> <p>Fang Lin^{1*}, Chung Huang², GUAN LIN¹, Jhen Yang¹, Yu Huang¹, Chien Lin³, ¹<i>National Yang Ming Chiao Tung University Tainan</i>, ²<i>National Yang Ming</i></p>	<p>2021-FRI-S0804-O006</p> <p>• 14:15</p> <p>Thermal Characteristics of Diamond Powder Mix with Colloidal Quantum Dot LEDs Package</p> <p>Fang Zhong Lin^{1*}, Chung Ping Huang², GUAN TENG LIN¹, Jhen Jia Yang¹, Yu Ming Huang¹, Chien Chung Lin³, ¹<i>National Yang Ming Chiao Tung University</i></p>

<i>Chiao Tung University Tainan, ³National Taiwan University Taipei.</i>	<i>Tainan, ²National Yang Ming Chiao Tung University Tainan, ³National Taiwan University Taipei.</i>
2021-FRI-S0903-O001 • 11:15 The Formation of p and n-type Multilayer Chromium doped ReSe2 Homojunction Adzilah Rosyadi ^{1*} , Ching-Hwa Ho ¹ , ¹ <i>National Taiwan University of Science and Technology Taipei City.</i>	2021-FRI-S0903-O001 • 11:15 The Formation of p and n-type Multilayer Chromium doped ReSe2 Homojunction Adzilah Shahna Rosyadi ^{1*} , Ching-Hwa Ho ¹ , ¹ <i>National Taiwan University of Science and Technology Taipei City.</i>
2021-FRI-P0901-P002 Cost-effective high-resolution wide-field Fourier ptychographic microscopy Hung Chia ^{1*} , ¹ <i>National Changhua University of Education Changhua City.</i>	2021-FRI-P0901-P002 Cost-effective high-resolution wide-field Fourier ptychographic microscopy Hung Yu Chia ^{1*} , ¹ <i>National Changhua University of Education Changhua City.</i>
2021-THU-S1001-O002 • 13:30 Developing SnO2 based flexible H2S gas sensor on food plastic wrap Moumita Deb ^{3*} , Po-Yi Chang ^{1,2} , Pin Li ⁴ , Olivier Soppera ² , Hsiao Zan ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu, ²University of Upper Alsace Mulhouse, ³National Yang Ming Chiao Tung University Hsinchu, ⁴National Yang Ming Chiao Tung University Hsinchu, ⁵National Yang Ming Chiao Tung University Hsinchu.</i>	2021-THU-S1001-O002 • 13:30 Developing SnO2 based flexible H2S gas sensor on food plastic wrap Moumita Deb ^{3*} , Po-Yi Chang ^{1,2} , Pin Hsuan Li ⁴ , Olivier Soppera ² , Hsiao Wen Zan ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu, ²University of Upper Alsace Mulhouse, ³National Yang Ming Chiao Tung University Hsinchu, ⁴National Yang Ming Chiao Tung University Hsinchu, ⁵National Yang Ming Chiao Tung University Hsinchu.</i>
2021-THU-S1001-O007 • 14:45 Implementation of High Speed Terahertz Spatial Light Modulator Using Organic Semiconductor Chia-Ming Mai ^{1*} , Mohamed Elsayed ² , Ho-Hsiu Chou ² , Shang-Hua Yang ¹ , ¹ <i>National Tsing Hua University Hsinchu, ²National Tsing Hua University Hsinchu.</i>	2021-THU-S1001-O007 • 14:45 Implementation of High Speed Terahertz Spatial Light Modulator Using Organic Semiconductor Chia-Ming Mai ^{1*} , Mohamed Hammad Elsayed ² , Ho-Hsiu Chou ² , Shang-Hua Yang ¹ , ¹ <i>National Tsing Hua University Hsinchu, ²National Tsing Hua University Hsinchu.</i>
2021-SAT-P1002-P015 A single layer of large-area molybdenum disulfide is grown by direct vulcanization Bing-Hsuan Liang ^{1*} , Kuan-Fu Lin ¹ , Vladimir Fedorov ^{2,3} , Hsiang-Chen Wang ¹ , ¹ <i>National Chung Cheng University Min Hsiung, Chia Yi, ²Novosibirsk State University Novosibirsk, ³Siberian Branch of Russian Academy of Sciences Novosibirsk.</i>	2021-SAT-P1002-P015 A single layer of large-area molybdenum disulfide is grown by direct vulcanization Bing-Hsuan Liang ^{1*} , Kuan-Fu Lin ¹ , Vladimir E Fedorov ^{2,3} , Hsiang-Chen Wang ¹ , ¹ <i>National Chung Cheng University Min Hsiung, Chia Yi, ²Novosibirsk State University Novosibirsk, ³Siberian Branch of Russian Academy of Sciences Novosibirsk.</i>