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"Modeling and Numerical Simulation of Dynamics and Noise in Semiconductor Lasers for Optical Communication Systems"

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عضوية اللجان والجمعيات العلمية:

- Institute of Electrical and Electronics Engineers IEEE, and the IEEE Lasers
 & Electro-Optics Society LEOS
- The Japan Society of Applied Physics
- The International Society for Optical Engineering SPIE

البحــوث: أولاً: بحوث منشورة في مجلات محكمة

- S. Abdulrhmann, M. Yamada and M Ahmed "Numerical Modeling of the Output and Operations of Semiconductor Lasers Subject to Strong Optical Feedback and its Dependence on the Linewidth Enhancement Factor", *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields*, in press 2010.
- 2. M. Ahmed, M. Yamada and S. Abdulrhmann "Numerical Modeling of the Route-tochaos of Semiconductor Lasers under Optical Feedback and its Dependence on the External Cavity Length", *International Journal of Numerical Modelling: Electronic* Networks, Devices and Fields, Vol. 22, Issue 6, pp. 434-445, 2009.
- 3. M. Ahmed, M. Yamada and S. Abdulrhmann "Semiconductor Laser Dynamics under Optical Feedback: I. Type of Transition to Chaos in FP Lasers", *AIUB Journal of Science and Engineering*, Vol. 7, No. 1, 1-5, 2008.
- **4. S. Abdulrhmann**, M. Yamada and M Ahmed "Semiconductor Laser Dynamics under Optical Feedback: II. Influence of the Linewidth Enhancement Factor in Fiber-Grating Lasers", *AIUB Journal of Science and Engineering*, **Vol. 7**, **No. 1**, **13-19**, **2008**.
- **5. S. Abdulrhmann**, M. Ahmed, T. Okamoto, W. Ishimori and M. Yamada "An improved analysis of semiconductor laser dynamics under strong feedback", *IEEE J. Select. Topics Quantum.*, **9**(5), 1265-1278, **2003**.
- S. Abdulrhmann, and M. Yamada, "Modeling and simulations of dynamics of semiconductor lasers with optical feedback", AIUB Journal of Science and Engineering, 1(2), 22-34, 2003.
- S. Abdulrhmann, and M. Yamada, "Effect of strong optical feedback on operation and noise characteristics of semiconductor lasers", TECHNICAL REPORT OF IEICE. LQE-11, 41-44, 2003.
- **8. S. Abdulrhmann**, M. Ahmed, T. Okamoto, W. Ishimori and M. Yamada, "Analysis of dynamics and intensity noise of semiconductor lasers under strong optical feedback", *Institute of Physics Conference Series*, **174**, pp. 409-413, **2003**.
- 9. S. Abdulrhmann, M. Ahmed and M. Yamada, "Influence of nonlinear gain and nonradiative recombination on the quantum nose in InGaAsP Semiconductor lasers", Optical Review 9(6), 260-268, 2002.
- 10.M. Ahmed, M. Yamada and S. Abdulrhmann, "A multimode model of mode competition low frequency noise in semiconductor lasers", Fluctuation and Noise Letters, 1(3), L163-L170, 2001.

ثانياً: بحوث منشورة في مجلات مؤتمرات دولية محكمة

 S. Abdulrhmann "Optimum Conditions for Operating Pumping Laser Subject to Strong Optical Feedback", proceedings of The Sixth International Conference on wireless and Optical communications Networks (WOCN2009), Cairo Egypt, April 28 - 30, 2009.

- 2. S. Abdulrhmann and Minoru Yamada "Numerical Simulations of the Effect of the Linewidth Enhancement Factor on the Operation of Pumping Lasers under Optical Feedback", proceedings of The Second Arab International Conference in Physics and Materials Science (CPMS), Alexandria, Egypt, October 27 - 29, 2007.
- 3. Moustafa F. Ahmed, S. Abdulrhmann, and M. Yamada, "Optical feedback-induced noise in laser diodes in optical-disc systems", The 46th IEEE International Midwest symposium on Circuits and systems, Cairo – Egypt, December 2003.
- 4. S. Abdulrhmann, and M. Yamada, "Theoretical Analysis of the Operating State of Semiconductor Lasers Subject to Strong Optical Feedback", proceedings of NUSOD '03, Numerical Simulation of Semiconductor Optoelectronic Devices, ThB2, 2003,.
- 5. S. Abdulrhmann, M. Ahmed, and M. Yamada, "New model of analysis of semiconductor laser dynamics under strong optical feedback in fiber communication system", proceedings of SPIE, 4986, 1-12, 2003.
- 6. S. Abdulrhmann, M. Ahmed, T. Okamoto, W. Ishimori and M. Yamada, "Analysis of dynamics and intensity noise of semiconductor lasers under strong optical feedback", proceeding of the 29th international Symposium on Compound Semiconductors, Tu-p-24, 2002.
- 7. S. Abdulrhmann, M Ahmed ,T. Okamoto,W. Ishimori and M. Yamada, "A novel model of semiconductor lased operation under strong optical feedback ", 18th IEEE International Semiconductor Laser Conference, Garmish, TuP 17, Germany, 2002.
- 8. S. Abdulrhmann, M. Ahmed, and M. Yamada, "Numerical simulation of intensity and phase fluctuations in long-wavelength lasers", Proceeding of the 16th International Conference on Noise in Physical Systems and 1/f Fluctuations, pp. 307-310, Oct. 2001.

- <u>ثالثاً: بحوث منشورة في مجلات مؤتمرات محلية</u> 1. **S. Abdulrhmann** "Optimum Conditions for Operating Pumping Laser Subject to Strong Optical Feedback", proceedings of The Sixth International Conference on wireless and Optical communications Networks (WOCN2009), Cairo Egypt, April 28 - 30, 2009.
- S. Abdulrhmann "Semiconductor Lasers Used in Optical Communication Systems", **Invited talk** in The Third International Conference on Modern Trends In Physics Research MTPR-08, Physics Dept., Faculty of Science, Cairo University, Egypt, 6-10 April 2008.
- 3. S. Abdulrhmann "Influence of the Linewidth Enhancement Factor on the Noise and Operation of Laser Diodes under Strong Optical Feedback", The Third International Conference on Modern Trends In Physics Research MTPR-08, Physics Dept., Faculty of Science, Cairo University, Egypt, 6-10 April 2008.
- 4. S. Abdulrhmann "Semiconductor Lasers Subject to Optical Feedback, Operations and Noise", The 4th Humbold Kolleg on Advancement of Science and Technology In Africa, Assiut University, Egypt, 22-24 March, 2008.
- 5. S. Abdulrhmann and Minoru Yamada "Numerical Simulations of the Effect of the Linewidth Enhancement Factor on the Operation of Pumping Lasers under Optical Feedback", The Second Arab International Conference in Physics and Materials Science (CPMS), Alexandria, Egypt, October 27 - 29, 2007.
- 6. S. Abdulrhmann "semiconductor lasers", Invited talk in The first Annual Conference for Young Scientists, Basic Science & Technology, Faculty of science, Assiut University, Assiut, Egypt, May 2007.
- 7. Moustafa F. Ahmed, S. Abdulrhmann, and M. Yamada, "Optical feedback-induced noise in laser diodes in optical-disc systems", The 46th IEEE International Midwest symposium on Circuits and systems, Cairo – Egypt, December 2003.
- 8. S. Abdulrhmann, and M. Yamada, "Theoretical Analysis of the Operating State of Semiconductor Lasers Subject to Strong Optical Feedback", proceedings of NUSOD '03, Numerical Simulation of Semiconductor Optoelectronic Devices, ThB2, October 13-16,

- University of Tokyo, Japan 2003.
- 9. **S. Abdulrhmann**, M. Ahmed, T. Okamoto, W. Ishimori and M. Yamada, "Influence of parameter on the operation of pumping lasers under optical feedback", *26th ISOC*, **D**-33, Japan, 2003.
- 10.**S. Abdulrhmann**, and M. Yamada, "Numerical simulation of operation state and noise properties of semiconductor laser subject to strong optical feedback", the *64*th Autumn Meeting, the JSAP, Japan, 2003.
- 11.**S. Abdulrhmann**, M. Ahmed, and M. Yamada, "New model of analysis of semiconductor laser dynamics under strong optical feedback in fiber communication systems", *photonics West, Optoelectronics 2003*, San Jose, **4986**-61, 2003.
- 12.**S. Abdulrhmann**, M. Ahmed and M. Yamada, "Numerical simulation of intensity of semiconductor laser operation under strong optical feedback", the *50th Spring meeting*, the JSAP, Japan, 2003.
- 13.**S. Abdulrhmann**, T. Okamoto, M. Ahmed and M. Yamada, "Optical feedback induced pulsation in semiconductor lasers", the 49th *Spring meeting, the JSAP*, Japan,2002.
- 14.S. Abdulrhmann, M. Ahmed ,T. Okamoto, W. Ishimori and M. Yamada, "Analysis of dynamics and intensity noise of semiconductor Lasers under strong optical feedback", 29th International symposium on Compound Semiconductor Lausanne, Tu-P-24, Switzerland, 2002.
- 15.**S. Abdulrhmann**, M Ahmed ,T. Okamoto,W. Ishimori and M. Yamada, "A novel model of semiconductor lased operation under strong optical feedback", 18th IEEE International Semiconductor Laser Conference, Garmish, **TuP 17**, Germany, 2002.
- 16.**S. Abdulrhmann**, and M. Yamada, "Pulsation induced by strong optical feedback in CW operated semiconductor lasers", *25*th *ISOS C-3*, Japan, 2002.
- 17.**S. Abdulrhmann**, M. Ahmed and M. Yamada, "Numerical simulation of intensity and phase noise tacking into account gain nonlinearity", the 48th Spring meeting, the JSAP, Japan,2001
- 18.**S. Abdulrhmann**, and M. Yamada, "Numerical simulation of intensity and phase fluctuations in long- wavelength lasers", 16th international conference on noise in physical Systems and 1/fFlucations, Florida USA, 2001.
- 19.**S. Abdulrhmann**, and M. Yamada, "Modeling and simulation of noise in 1.55 um InGaAsP lasers", 24th ISOC,**E-16**, Japan,2001.

رابعاً: بحوث تحت الإعداد

- 1. **S. Abdulrhmanned** "Intensity and frequency Noise of Semiconductor Lasers Subject to Strong Optical and its Dependence on the Linewidth Enhancement Factor", under preparation and will be submitted soon to Optics and Laser Technology.
- 2. **S. Abdulrhmann** "Spontaneous Emission factor and its Influence on the Operation and Route to Chaos of Semiconductor Lasers Subject to Optical", under preparation will be submitted soon to SPIE Conference will be held in USA.
- 3. **S. Abdulrhmann** "Intensity and frequency Noise of Semiconductor Lasers Subject to Strong Optical and its Dependence on the Spontaneous emission Factor", under preparation.