

Publications list:

1. Published books:

- [B.1] **F. Djeffal** and N. Lakhdar, Multigate (III-V) FET-based devices for high performance applications, **English Edition**, LAP LAMBERT Academic Publishing - ISBN-13: 978-3-659-33333-0, 2012, Germany. 132 pages (www.morebooks.de).
- [B.2] **F. Djeffal** and T. Bendib, Evolutionary and neural techniques: Application to Microelectronics circuits, **French Edition**, ISBN: 978-9947-0-2486-7, 2008, Batna, Algeria. 138 pages.
- [B.3] **F. Djeffal** and M.A. Abdi, Courses and Exercises in Electronics, **Arabic Edition**, ISBN: 978-9961-9654-8-1, 2008, Batna, Algeria. 110 pages.
- [B.4] **F. Djeffal**, Predictive modeling of deep submicron MOSFET: Application to nanoscale devices design, **French Edition**, Publishing European University, ISBN: 978-613-1-52913-9, 2010, Sarrebruck, Germany. 164 pages (www.amazon.com).
- [B.5] **F. Djeffal** and T. Bendib, Nanoscale MOSFETs, **French Edition**, Publishing European University, ISBN: 978-6131552021, 2010, Sarrebruck, Germany. 88 pages (www.amazon.com).
- [B.6] **F. Djeffal** and N. Lakhdar, Modeling of Electron mobility in Semiconductor devices, **French Edition**, Publishing European university, ISBN: 978- 6131551390, 2010, Sarrebruck, Germany. 100 pages (www.amazon.com).
- [B.7] M. Meguellati, **F. Djeffal**, Multigate FET-based sensors for Engineering applications, **English Edition**, LAP LAMBERT Academic Publishing - ISBN-13: 978-3-8465-4597-3, 2012, Germany. 101 pages (www.morebooks.de).

2. Published chapters-book

- [CB.1] N. Abdelmalek, **F. Djeffal**, T. Bentrchia, " Investigation of Hot Carrier–induced Degradation in Nanoscale Junctionless MOSFETs : A Reliability-based Analysis", Chapter.4 in the book: Nanotechnology in Electronics: Materials, Properties, Devices, ISBN: 9783527824229, publisher Wiley-VCH GmbH, 2023.
- [CB.2] T. Bentrchia, **F. Djeffal** and E. Chebaki, "Multi-objective Design of Nanoscale Double Gate MOSFET Devices Using Surrogate Modeling and Global Optimization", Intelligent Nanomaterials, 2nd Edition, ISBN: 978-1-119-24248-2, Edited: Ashutosh Tiwari, publisher: Wiley, pp. 395-427, 2016.
- [CB.3] **F. Djeffal**, A. Benhaya, K. Tamersit, and M. Meguellati, "New dielectric modulated graphene (DMG) FET-based sensor for High-performance biomedical sensing applications," IAENG Transactions on Engineering Sciences: DOI: 10.1142/9789814667364_0030, ISBN: 978-981-4667-35-7, World Scientific Publishing, Edited by: Sio-Iong Ao, Alan Hoi-Shou Chan, Hideki Katagiri, Li Xu, Hong Kong, pp. 401-414, 2015.
- [CB.4] T. Bendib, L. Pancheri, **F. Djeffal** and G-F. Dalla Betta, "Modeling and optimization of avalanche photodiode electrical parameters using multiobjective genetic algorithm," IAENG Transactions on Engineering Sciences: DOI: 10.1142/9789814667364_0031, ISBN: 978-981-4667-35-7, World Scientific Publishing, Edited by: Sio-Iong Ao, Alan Hoi-Shou Chan, Hideki Katagiri, Li Xu, Hong Kong, pp. 415-429, 2015.
- [CB.5] **F. Djeffal** and T. Bendib, Artificial-Neural-Networks-Based Approaches to study the Nanoscale CMOS Devices, Book title: Artificial Neural networks, Editor: Seoyun J. Kwon, Publisher: Nova Science Publishers, ISBN: 978-1-61761-553-5, 2010, pp. 109-122, New York, USA.
- [CB.6] T. Bentrchia and **F. Djeffal**, Compact Modeling of Multi-Gate MOSFET including Hot-Carrier Effects, Book title: CMOS Technology, Editor: Min-jun Kwon, Publisher: Nova Science Publishers, ISBN: 978-1-61761-325-8, 2010, pp. 135-158, New York, USA.
- [CB.7] **F. Djeffal** and M. Meguellati, "multigate RADFET dosimeter For Radioactive Environment Monitoring Applications", series title: lecture notes in electrical engineering, Editors names: Gi-Chul Yang, SIO-IONG AO. Len Gelman, Title of Book: IAENG Transactions on Engineering Technologies, GPU/PS: 3/9059, SPIN: GT-C-CTP-09/2012, Vol. 229, 2013, pp 301-313, Springer, Netherlands.

- [CB.8] T. Bendib and **F. Djeflal**, “Multi-objective-based approach to optimize the Analog Electrical behavior of GSDG MOSFET: application to nanoscale circuit design”, series title: lecture notes in electrical engineering, Editors names: Gi-Chul Yang, SIO-IONG AO. Len Gelman, Title of Book: IAENG Transactions on Engineering Technologies, GPU/PS: 3/9059, SPIN: GT-C-CTP-09/2012, Vol. 229, 2013, pp 315-325, Springer, Netherlands.
- [CB.9] T. Bentrucia and **F. Djeflal**, “An ANFIS based approach for prediction of threshold voltage degradation in nanoscale DG MOSFET devices” Editors names: Gi-Chul Yang, Sio-Iong Ao, Len Gelman, Book Title: IAENG Transactions on Engineering Technologies, DOI: 10.1007/978-94-017-8832-8_25, ISBN: 978-94-017-8831-1, pp 339-353, 2014, Springer, Netherlands.

3. Published papers in Referred Journals

- [J.1] H. Ferhati, F. Djeflal, F. AbdelMalek, " Towards improved efficiency of SnS solar cells using back grooves and strained-SnO₂ buffer layer: FDTD and DFT calculations" *Journal of Physics and Chemistry of Solids*, Vol. 178, pp. 111353, 2023. (IF= 4.38).
- [J.2] A. Maoucha, H. Ferhati, F. Djeflal " Highly efficient Cd-Free ZnMgO/CIGS solar cells via effective band-gap tuning strategy" *Journal of Computational Electronics*, pp.1-10, 2023. (IF= 1.98).
- [J.3] H. Ferhati, F. Djeflal, L.B. Drissi, Performance analysis of a new Mid-Infrared phototransistor based on combined graded band gap GeSn sensitive-film and IGZO TFT platform, *Micro and Nanostructures* 173, 207467, 2023 (IF= 3.22).
- [J.4] F Djeflal, H Ferhati, A Benyahia, Z Dibi, Performance analysis of SnS photodetector using strained SnO₂ stacked layer: Numerical simulation and DFT calculations, *Microelectronic Engineering*, pp. 111961, 2023 (Indexed by: Scopus/ISI Thomson/IF= 2.66).
- [J.5] B Zerroumda, F Djeflal, S Benaggoune, H Ferhati, Performance assessment of a novel 4H–SiC junctionless planar power MOSFET towards improving electrical properties, *Micro and Nanostructures* 169, 207346, 2022 (Indexed by: Scopus/ISI Thomson/IF= 3.22).
- [J.6] Ramadan, F. Z., Djeflal, F., Drissi, L. B., Saidi, S., & Ferhati, H. (2022). Highly efficient ACdTS kesterite solar cell based on a new photovoltaic material. *Journal of Physics and Chemistry of Solids*, 161, 110458. (Indexed by: Scopus/ISI Thomson/IF= 4.38).
- [J.7] Farah, S. E., Dibi, Z., Ferhati, H., & Djeflal, F. (2022). DFT-FDTD modeling of a new broadband mid-infrared IGZO thin-film phototransistor based on black phosphorus capping layer incorporating intermediate metallic film. *Journal of Physics and Chemistry of Solids*, 162, 110528. (Indexed by: Scopus/ISI Thomson/IF= 4.38).
- [J.8] Ferhati, H., Djeflal, F., & Drissi, L. B. (2022). Metaheuristic-based decision maker framework for the development of multispectral IGZO thin-film phototransistors. *Journal of Science: Advanced Materials and Devices*, 7(1), 100414. (Indexed by: Scopus/ISI Thomson/IF= 7.32).
- [J.9] Benyekken, C., Benhaya, A., Djeflal, F., & Chahdi, M. (2022). Impact of Cathodic Potential on the Growth Mechanisms and Morphology of Ni–P Alloys Using Electrodeposition Technique. *Transactions on Electrical and Electronic Materials*, 23(1), 52-63.
- [J.10] Farah, S. E., Ferhati, H., Dibi, Z., & Djeflal, F. (2022). Performance analysis of broadband Mid-IR graphene-phototransistor using strained black phosphorus sensing gate: DFT-NEGF investigation. *Micro and Nanostructures*, 163, 107187. (Indexed by: Scopus/ISI Thomson/IF= 3.22).
- [J.11] Ferhati, H., Djeflal, F., Bendjerad, A., Foughali, L., Benhaya, A., & Saidi, A. (2022). Highly-detective tunable band-selective photodetector based on RF sputtered amorphous SiC thin-film: Effect of sputtering power. *Journal of Alloys and Compounds*, 907, 164464. (Indexed by: Scopus/ISI Thomson/IF= 6.37).
- [J.12] Kacha, K., Djeflal, F., Ferhati, H., Foughali, L., Bendjerad, A., Benhaya, A., & Saidi, A. (2022). Efficiency improvement of CIGS solar cells using RF sputtered TCO/Ag/TCO thin-film as prospective buffer layer. *Ceramics International*, 48(14), 20194-20200. (Indexed by: Scopus/ISI Thomson/IF= 5.53).
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- [J.17] Ferhati, H., Djeffal, F., Bendjerad, A., Saidi, A., & Benhaya, A. (2021). Post-annealing effects on RF sputtered all-amorphous ZnO/SiC heterostructure for solar-blind highly-detective and ultralow dark-noise UV photodetector. *Journal of Non-Crystalline Solids*, 574, 121168. (Indexed by: Scopus/ISI Thomson/IF= 4.46).
- [J.18] F.Z. Ramadan, F.Djefal, L.B. Drissi, S.Saidi, H.Ferhati, Highly efficient ACdTS kesterite solar cell based on a new photovoltaic material, *Journal of Physics and Chemistry of Solids*, 2021, <https://doi.org/10.1016/j.jpcs.2021.110458>, (Indexed by: Scopus/ISI Thomson/IF= 4.38).
- [J.19] El-Bakkali, A., Sadki, S., Drissi, L. B., & Djefal, F. (2021). Layers engineering optoelectronic properties of 2D hexagonal GeS materials. *Physica E: Low-dimensional Systems and Nanostructures*, 133, 114791. (Indexed by: Scopus/ISI Thomson/IF= 3.34).
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- [J.23] Benyahia, K., Djefal, F., Ferhati, H., Benhaya, A., Bendjerad, A., Djaballah, Y., & Martin, N. (2021). Microstructured ZnO-ZnS composite for earth-abundant photovoltaics: Elaboration, surface analysis and enhanced optical performances. *Solar Energy*, 218, 312-319. (Indexed by: Scopus/ISI Thomson/IF= 5.74).
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