

# Lista lucrărilor publicate și mapa cu lucrări selecționate

## Bușe Gabriel

- I. **Titlul tezei de doctorat:** Studiul unor proprietăți fizice ale cristalelor de  $\text{CaF}_2$  dublu dopate cu  $\text{ErF}_3$  și  $\text{YbF}_3$   
Doctorand: Bușe Gabriel; Conducător științific: Prof. Dr. Irina Nicoară  
(Universitatea de Vest din Timisoara – Facultatea de Fizica Iulie 2011)

### II. Lista articolelor publicate in reviste din fluxul științific internațional principal

- Luminescence Properties and Judd–Ofelt Analysis of Various  $\text{ErF}_3$  Concentration-Doped  $\text{BaF}_2$  Crystals**  
Racu, Andrei, Stef Marius, **Buse Gabriel\***, Nicoara Irina, Vizman, Daniel  
Materials, July 2021, vol. 14, issue 15, p. 4221
- Growth and characterization of  $\text{ErF}_3$  doped  $\text{BaF}_2$  crystals**  
Nicoara Irina, Stef Marius, **Buse Gabriel**, Racu Andrei  
Journal of Crystal Growth, July 2020, 547:125817
- Spectroscopic properties of the gamma irradiated  $\text{ErF}_3$ -DOPED  $\text{BaF}_2$  crystals**  
Marius Stef, Irina Nicoara, Andrei Racu, **Gabriel Buse**, Daniel Vizman  
Radiation Physics and Chemistry, November 2020, Volume 176, , 109024
- Spinodal Decomposition in Lead-free Piezoelectric  $\text{BaTiO}_3$ - $\text{CaTiO}_3$ - $\text{BaZrO}_3$  Crystals**  
**Buse, G.**, Xin, C., Marchet, P., Borta-Boyon, A., Pham-Thi, M., Cabane, H., Veron, E., Josse, M., Velazquez, M., Lahaye, M., Lebraud, E., Maglione, M., Veber, P.  
Crystal Growth and Design 2018, 18 (10), pp 5874–5884
- First scintillating bolometer tests of a CLYMENE R&D on  $\text{Li}_2\text{MoO}_4$  scintillators towards a large-scale double-beta decay experiment**  
**G. Bușe**, A. Giuliani, P. de Marcillac, S. Marnieros, C. Nones, V. Novati, E. Olivieri, D.V. Poda, T. Redon, J.-B. Sand, P. Veber, M. Velázquez, A.S. Zolotarova  
Nuclear Inst. and Methods in Physics Research, A 891 (2018) 87–91
- Numerical modeling of Czochralski growth of  $\text{Li}_2\text{MoO}_4$  crystals for heat-scintillation cryogenic bolometers**  
Carmen Stelian, Matias Velázquez, Philippe Veber, Abdelmounaim Ahmine, Jean-Baptiste Sand, **Gabriel Bușe**, Hugues Cabane, Thierry Duffar  
Journal of Crystal Growth Volume 492, 15 June 2018, Pages 6-12
- Growth and Characterization of Lead-free Piezoelectric Single Crystals**  
Philippe Veber, Feres Benabdallah, Hairui Liu, **Gabriel Buse**, Michael Josse and Mario Maglione  
Materials 2015, 8(11), 7962-7978;
- Spectroscopic properties of newly flux grown and highly  $\text{Yb}^{3+}$  -doped cubic  $\text{RE}_2\text{O}_3$  (RE = Y, Gd, Lu) laser crystals**  
Matias Velázquez, Philippe Veber, **Gabriel Bușe**, Yannick Petit, Philippe Goldner, Véronique Jubera, Daniel Rytz, Anaël Jaffres, Mark Peltz, Volker Wesemann, Patrick Aschehough, Gérard Aka  
Optical Materials, Elsevier, 2015, 39, pp.258-264
- Laser demonstration with highly-doped  $\text{Yb}:\text{GdO}$  and  $\text{Yb}:\text{YO}$  crystals grown by an original flux method**  
Frederic Druon, Matias Velazquez, Philippe Veber, Sylvie Janicot, Oudomsack Viraphong, **Gabriel Buse**, Marwan Abdou Ahmed, Thomas Graf, Daniel Rytz, and Patrick Georges  
Optics Letters Vol. 38, No. 20 / October 15, 2013, 4146

10. **Influence of Yb<sup>3+</sup> ions on the optical properties of double-doped Er,Yb: CaF<sub>2</sub> crystals**  
G. Bușe, E. Preda, M. Ștef, I. Nicoară  
Physica Scripta, Volume 83, Number 2, 025604, (2011)
11. **Concentration dependence of Judd-Ofelt parameters of Er<sup>3+</sup> ions in CaF<sub>2</sub> crystals**  
E. Preda, M. Ștef, G. Bușe, A. Pruna, I. Nicoară  
Physica Scripta, Volume 79, Number 3, 035304, (2009)
12. **Some dielectric and optical properties of PbF<sub>2</sub>-codoped CaF<sub>2</sub>: YbF<sub>3</sub> crystals**  
M Ștef, G Bușe, A Pruna and I Nicoară  
Physica Scripta, Volume T135, 014044, (2009)

### III. Lista publicațiilor apărute în lucrări ale principalelor conferințe internaționale de specialitate

1. **Effect of surface orientation on the dielectric spectra of ErF<sub>3</sub>-doped CaF<sub>2</sub> crystals**  
I. Nicoara, M. Munteanu, E. Preda, G. Bușe and M. Ștef  
Analele Universității de Vest din Timișoara, vol. 51, 2007, 32-35
2. **Influence of some impurities on the emission properties of CaF<sub>2</sub>: YbF<sub>3</sub> crystals**  
M Ștef, I Nicoara, F Cirlan, I Para, M Velazquez, G Bușe  
AIP Conf. Proc. 1694, 030005 (2015)
3. **Dislocations in YbF<sub>3</sub> doped BaF<sub>2</sub> crystals**  
Cirlan Florina, Bușe Gabriel, Nicoara Irina  
AIP Conference Proceedings 1694, 030005 (2015)
4. **Segregation coefficient of Yb<sup>3+</sup> and Yb<sup>2+</sup> ions in YbF<sub>3</sub> doped BaF<sub>2</sub> crystals**  
Irina Nicoara, Gabriel Bușe, and Madalin Bunoiu  
AIP Conference Proceedings 1634, 111 (2014)
5. **Diode-pumped lasers using highly doped Yb:Gd<sub>2</sub>O<sub>3</sub> and Yb:Y<sub>2</sub>O<sub>3</sub> crystals grown by the flux method**  
Frédéric Druon, Matias Velazquez, Philippe Veber, Sylvie Janicot, Oudomsack Viraphong, Gabriel Bușe, Marwan Abdou Ahmed, Thomas Graf, Daniel Rytz, and Patrick Georges  
Optics InfoBase Conference Papers in Advanced Solid-State Lasers Congress, 27 October–1 November 2013 ISBN: 978-1-55752-982-4 (Optical Society of America, 2013), paper AW1A.1.
6. **First laser operation from diode-pumped highly doped Yb:Gd<sub>2</sub>O<sub>3</sub> and Yb:Y<sub>2</sub>O<sub>3</sub> crystals grown by flux method**  
F. Druon, M. Velazquez, P. Veber, S. Janicot, O. Viraphong, G. Bușe, M.A. Ahmed, Th. Graf, D. Rytz, P. Georges  
(Conference Paper) Conference on Lasers & Electro-Optics Europe & International Quantum Electronics Conference CLEO EUROPE/IQEC, Munich, 2013, pp. 1-1.
7. **Spectroscopic properties of newly flux grown RE<sub>2</sub>O<sub>3</sub>:Yb<sup>3+</sup> (RE=Y,Lu) laser crystals for high-power diode-pumped systems**  
Gabriel Bușe; M. Velázquez; Philippe Veber; Véronique Jubera; Yannick Petit; Stanislav Péchev; Oudomsack Viraphong; Rodolphe Decourt; Ana"l Jaffres; Patrick Aschehoug; Gérard Aka  
Proc. SPIE 8433, Laser Sources and Applications, 84331B (June 1, 2012); doi:10.1117/12.921785
8. **Influence of Pb<sup>2+</sup> ions on the morphology of etch pits and dislocation density of CaF<sub>2</sub>:YbF<sub>3</sub> crystals**  
M. Ștef, F. Ștef, G. Bușe, I. Nicoară  
AIP Conference Proceedings 1472 (2012) 192-197
9. **Influence of the Er<sup>3+</sup> Ions Concentration on the Structural Deformation in Doped CaF<sub>2</sub> Crystals**  
I. Nicoara, M. Munteanu, M. Ștef, E. Preda, G. Bușe  
AIP Conference Proceedings 1262 (2010) 104-107
10. **Influence of Li<sup>+</sup> and Na<sup>+</sup> ions on the dielectric spectra of YbF<sub>3</sub> doped and LiF, NaF codoped CaF<sub>2</sub> crystals**  
A. Pruna, M. Ștef, G. Bușe, I. Nicoară  
AIP Conference Proceedings 1131 (2009) 121-125
11. **Luminescence spectrum and Judd-Ofelt analysis of CaF<sub>2</sub>:0.83 mol% ErF<sub>3</sub> crystal**  
E. Preda, M. Ștef, G. Bușe, A. Pruna, F. Ștef, I. Nicoară  
AIP Conference Proceedings 1131 (2009) 126-130
12. **Judd-Ofelt analysis of the Er<sup>3+</sup> ions of double-doped CaF<sub>2</sub>:(Er<sup>3+</sup>, Yb<sup>3+</sup>) crystal**  
G. Bușe, E. Preda, M. Ștef, A. Pruna, F. Ștef, I. Nicoară  
AIP Conference Proceedings 1131 (2009) 131-135

**13. Influence of Li<sup>+</sup> and Na<sup>+</sup> ions on the dislocations density of YbF<sub>3</sub> doped and LiF, NaF codoped CaF<sub>2</sub> crystals**

A. Pruna, M. Stef, **G. Buse**, I. Nicoara

Analele Universității de Vest din Timișoara, vol. 52, 2008, 77-82

**14. Morphology of etch pits and dislocations density on (111) surface of rare-earth doped CaF<sub>2</sub> crystals**

A. Pruna, **G. Buse**, E. Preda, I. Nicoara

Analele Universității de Vest din Timișoara, vol. 51, 2007, 40-43

**15. Spectroscopic properties of gamma irradiated CeF<sub>3</sub> doped BaF<sub>2</sub> crystals**

Marius Stef, Irina Nicoara, and **Gabriel Buse**

AIP Conference Proceedings 2218, 040002 (2020)

**IV. Lista brevetelor de invenție și a altor tipuri de proprietate industrială**

**Brevet international: "(EN) METHOD FOR PREPARING SINGLE-CRYSTAL CUBIC SESQUIOXIDES AND USES THEREOF (FR) PROCÉDE DE PRÉPARATION DE SESQUIOXYDES CUBIQUES MONOCRISTALLINS ET LEURS APPLICATIONS – Patent No. 14/903,761"**

Inventor: Philippe Veber, Matias Velazquez, Oudomsack Viraphong, Gabriel Buse

**Timișoara 02 Mai 2022**

**Dr.fiz. Bușe Gabriel**

