

## Lucrari\_Nicolae Avram

### Published papers in ISI quoted journals

- *N. M. Avram*, V. A. Chernyshev, E.-L. Andreici, V. P. Petrov and P. Petkova, „Phonon spectra of eulytite crystals  $BL_4M_3O_{12}$  (M=Ge, Si):ab initio study”, *Optical Materials*, **61**, 30-36(2016);
- M.G. Brik, S.J. Camardello, A.M. Srivastava, *N.M. Avram*, A. Suchocki, „Spin forbidden transition in the spectra of transition metal ions and nephelauxetic effect”, *ECS Journal of Solid Science and Technology*, **5**(1), R3067-R3077 (2016);
- *N.M. Avram*, C.N. Avram, L.-E. Andreici, A.M.Barb, „Jahn-Teller Effect in  $^4T_{2g}$  excited state of  $Mn^{2+}$ :MgO” *Chemical Physics*, **450**, 146-150(2015);
- M.G.Brik, A.M.Srivastava, *N.M.Avram*, A.Suchocki, ”Empirical relation between covalence and the energy position of the  $Ni^{2+} \ ^1E$  state in octahedral complex”, *J.Lumin.*, **148**,338-341 (2014);
- S.Ivascu, A.S. Gruia, *N.M.Avram*, ”Crystal field effect on interionic distance in cubic MgO crystal doped with  $Fe^{2+}$  ions”, *Physica B*,450, 146-150 (2014).
- *N.M. Avram*, M.G. Brik and E.-L.Andreici , „Semi-empirical and ab initio DFT modeling of the spin-Hamiltonian parameters for  $Fe^{6+}$ :  $K_2MO_4$  (M=S, Cr, Se)”, *Physica Scripta* **T162**, 014020-014023 (2014);
- ” M.G. Brik, A.S. Gruia, C.N. Avram, E.-L.Andreici and *N.M. Avram*, „First principles and crystal field calculations of the spectral, structural and electric properties of (Na,Li)VSi<sub>2</sub>O<sub>6</sub> clinopyroxenes crystals”*Physica Scripta* ,**T162**, 014021-014025 (2014);
- M.G.Brik, *N.M.Avram*, A.S.Gruia, "Calculations of the spectral,structural and electronic properties of NaCrSi<sub>2</sub>O<sub>6</sub> and LiCr<sub>2</sub>O<sub>6</sub> crystals", *Optical Materials*, **35**,Special Issue,1772-1775 (2013);
- *N.M.Avram*, M.G.Brik, C.N.Avram, M.G. Ciresan, L.Andreici, "Crystal field and low lying energy levels for  $Cr^{3+}$  doped in LiNbO<sub>3</sub> ", *Rom. Rep. Phys.*, **64** Supplement,1163-1169(2012);
- E.-L, Andreici, *N.M.Avram*, "Vibronic coupling constants for  $V^{3+}$  doped in Li(Al,Ga)O<sub>2</sub> crystals *Opt. Adv. Mat.-Rapid Comm.*, **6**(7-8) ,721-722(2012);
- M.G.Brik, *N.M.Avram*, C.N.Avram, " Ab initio calculation of the electronic, structural, and elastic properties of Nb<sub>2</sub>InC", *Comput. Mat, Science* **63**, 227-231 (2012);
- E.-L. Andreici, S.A.Gruia, *N.M.Avram*, "The parameters of the free ions  $Mn^{5+}$  and  $Fe^{6+}$  ", *Physica Scripta*, **T149**, 014060- 014064 (2012);
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- *Nicolae M. Avram*, Mikhail G. Brik and Ilmo Sildos, "Electronic and optical properties of  $ZnCr_2Se_4$  as explored by first principles and crystal field calculations", *Phys. Status Solidi (C)*, **8**/9, 2585-2588(2011);

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- "Modeling of crystal field parameters and energy levels scheme simulation for  $\text{Fe}^{6+}$  doped in  $\text{K}_2\text{MO}_4$  (M=Cr, S, Se)", M.G.Brik, E.-L. Andreici, N.M. Avram, *Studia UBB Physica* **60**,1, 61-72 (2015);
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- "Calculations of the Paramagnetic Susceptibilities for  $\text{LiYF}_4:\text{Nd}^{3+}$  and  $\text{LiYF}_4:\text{Er}^{3+}$  from the Crystal Field Effects" M. G. Brik, M. G. Ciresan and N. M. Avram, *AIP Conference Proceeding* **1262**,130-135 (2010);

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- “Crystal Field Studies on MgGa<sub>2</sub>O<sub>4</sub>: Ni<sup>2+</sup>”, L. Andreici, M. Stanciu and N. M. Avram, AIP Conference Proceeding **1262**,130-135 (2010);
- “Long Range Correlation of Hydrophilicity and Flexibility Along the Hemoglobin Chain “, D. Craciun, A. Isvoran and N. M. Avram, AIP Conference Proceeding **1262**,173-177 (2010);
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## Papers presented at the International conferences (Selection)

- Nicolae M. Avram, Vladimir A. Chernyshev, Emiliana-Laura Andreici, Vladislav P. Petrov and Petya Petkova "Phonon spectra of eulytite crystals  $\text{Bi}_4\text{M}_3\text{O}_{12}$  (M=Ge,Si):ab initio study", "International Conference on Physics of Optical Materials and Devices'-ICOM, Aug 31<sup>st</sup>- Sep 4<sup>th</sup>, 2015, Budva, Montenegro.
- N.M.Avram, C.N.Avram, and E.-L.Andreici, "Jahn-Teller effect in  $^4\text{T}_{2g}$  excited state of  $\text{Mn}^{2+}:\text{MgO}$ ", XXII<sup>nd</sup> International Symposium on the Jahn-Teller Effect", Graz,Austria 18<sup>th</sup>-22<sup>th</sup> August 2014.
- M.G. Brik, C.N. Avram, A.S. Gruia, N.M. Avram, " Ab initio calculations of structural , electronic, optical and elastic properties of the Laves compound  $\text{Co}_2\text{Pr}$ ", Conference TIM 11, 24-27 November,2011, Timisoara, Romania.
- N.M. Avram ,M.G. Brik, E.-L. Andreici, "Semi-empirical and *ab initio* DFT modeling of the spin-Hamiltonian parameters for  $\text{Fe}^{6+}:\text{K}_2\text{MO}_4$  (M=S, Cr, Se)", IV International school and conference on photonics, Belgrade,Serbia, August 26-30,2013.
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