



## Curriculum Vitae Pop M.

### Personal data:

Name: Rubish Vasyl (ukrainian: Рубіш Василь Михайлович)  
Affiliation: Institute for Information Recording, NAS of Ukraine, Mykoly Shpaka St, 2, Kyiv, Ukraine.  
Mobile: +380509399427  
E-mail: center.uzh@gmail.com  
Date of birth: 11.01.1955  
Nationality: Ukrainian  
Web of Science  
ResearcherID:: DOH-9447-2022  
Scopus ID 6603315741  
ORCID: 0000-0003-0229-1449

### Scientific degrees:

03/2013 Professor ;  
02/2008 Doctor Physical and Mathematical Sciences, speciality: Solid State Physics;

from 01.01.2001 till 09.11.2016 Director, Uzhgorod Center of Materials for Optical Information Carriers within Institute for Information Recording;

from 01.02.2017 Head, Institute for Information Recording of the National Academy of Sciences of Ukraine;

### Main research interests:

Optical, electrical and chemical properties of crystalline and non-crystalline materials. Spectroscopy. Materials Science. Science and Technology

### Publications: over 150.

Rubish V.M. Thermostimulated relaxation of SbSI glass structure (2001) Journal of Optoelectronics and Advanced Materials, 3 (4), pp. 941 - 944

Pogodin A., Pop M., Shender I., Filep M., Malakhovska T., Kokhan O., Izai V., Kúš P., Rubish V. Anionic framework descriptors and microstructure affects on optical parameters of  $Ag_{7+x}(P_{1-x}Ge_x)S_6$  single crystals (2023) Optical Materials, 145, art. no. 114407 DOI: 10.1016/j.optmat.2023.114407

- Pogodin A.I., Pop M.M., Shender I.O., Studenyak I.P., Filep M.J., Malakhovska T.O., Kokhan O.P., Babuka T.Y., Stercho I.P., Rubish V.M., Kopčanský P. Effect of structural site disorder on the optical properties of  $\text{Ag}_{6+x}(\text{P}_{1-x}\text{Gex})\text{S}_{51}$  solid solutions (2022) *Journal of Materials Science: Materials in Electronics*, 33 (27), pp. 21874 – 21889 DOI: 10.1007/s10854-022-08974-4
- Rubish V.M., Stefanovich V.O., Guranich O.G., Rubish V.V., Kostiukevych S.A., Kryuchyn A.A. Raman spectra and optical properties of thin  $\text{As}_{40}\text{S}_{60}$  and  $\text{As}_{40}\text{S}_{50}\text{Se}_{10}$  films (2007) *Ukrainian Journal of Physical Optics*, 8 (2), pp. 69 – 77 DOI: 10.3116/16091833/8/2/69/2007
- Rubish V.M., Shtets P.P., Rubish V.V., Semak D.G., Tsizh B.R. Optical media for information recording based on amorphous layers of Sb-Se-In system (2003) *Journal of Optoelectronics and Advanced Materials*, 5 (5), pp. 1193 - 1197
- Guranich P.P., Rosul R.R., Gomonnai O.O., Rubish V.M., Gomonnai A.V., Slivka A.G., Huranych P. Phase (x, T) and (p, T) diagrams of  $\text{TlIn}(\text{S}_{1-x}\text{Sex})_2$  polycrystal in the compositional range  $0 \leq x \leq 0.15$  (2019) *Phase Transitions*, 92 (5), pp. 508 – 516 DOI: 10.1080/01411594.2019.1597097
- Rubish V.M., Kyrylenko V.K., Durkot M.O., Makar L.I., Pop M.M., Tarnaj A.A., Trunov M.L., Mudry S., Shtablavyi I. Rapid formation methods of arrays of randomly distributed Au and Ag nanoparticles, their morphologies and optical characteristics (2021) *Physics and Chemistry of Solid State*, 22 (4), pp. 804 – 810 DOI: 10.15330/pcss.22.4.804-810
- Bilanych V.S., Shylenko O., Vorobiov S., Bilanych V.V., Rizak V., Rubish V.M., Feher A., Molcanova Z., Saks K., Komanicky V. Charge Relaxation in Chalcogenide Films under Electron Beam Irradiation (2023) *Journal of Non-Crystalline Solids*, 613, art. no. 122374 DOI: 10.1016/j.jnoncrysol.2023.122374
- Kryuchyn A.A., Petrov V.V., Rubish V.M., Trunov M.L., Lytvyn P.M., Kostyukevich S.A. Formation of Nanoscale Structures on Chalcogenide Films (2018) *Physica Status Solidi (B) Basic Research*, 255 (6), art. no. 1700405 DOI: 10.1002/pssb.201700405
- Rubish V.M., Stefanovich V.A., Shtets P.P., Gerasimenko V.S., Turyanitsa I.D., Slivka V.Yu. Vibrational spectra and structure of  $\text{SbxS}_{1-x}$  glasses (1990) *Journal of Applied Spectroscopy*, 52 (1), pp. 36 – 39 DOI: 10.1007/BF00664777
- Rubish V.M., Pop M.M., Pisak R.P., Durkot M.O., Solomon A.M., Rubish V.V., Tyagur Yu.I., Mykaylo O.M., Kaynts D.I., Dzumedzey R.O., Boryk V.V., Mateik G.D. Structure and Optical Characteristics of Mercury-Modified  $\text{Se}_{100-x}\text{As}_x$  Amorphous Films (2024) *Physics and Chemistry of Solid State*, 25 (3), pp. 471 - 477 DOI: 10.15330/pcss.25.3.471-477
- Rubish V.M., Dobosh M.V., Shtets P.P., Shpak I.I., Rubish V.V., Yurkin I.M., Semak D.G., Fedelech V.I. Crystallization parameters of non-crystalline antimony chalcogenides (2004) *Journal of Physical Studies*, 8 (2), pp. 178 - 182
- Zapukhlyak Z.R., Nykyruy L.I., Rubish V.M., Wisz G., Prokopiv V.V., Galushchak M.O., Lishchynskyy I.M., Katanova L.O., Yavorskyi R.S. SCAPS simulation of  $\text{ZnO}/\text{CdS}/\text{CdTe}/\text{CuO}$  heterostructure for photovoltaic application (2020) *Physics and Chemistry of Solid State*, 21 (4), pp. 660 – 668 DOI: 10.15330/PCSS.21.4.660-668
- Azhniuk Y.M., Gomonnai A.V., Rubish V.M., Rigan M.Y., Solomon A.M., Gomonnai O.O., Guranich O.G., Petryshynets I., Zahn D.R.T. In situ Raman observation of laser-induced formation of  $\text{TlInSe}_2$  crystallites in  $\text{Tl-In-As-Se}$  glass (2013) *Journal of Physics and Chemistry of Solids*, 74 (10), pp. 1452 – 1458 DOI: 10.1016/j.jpccs.2013.05.005
- Tsyhyka V.V., Chychura I.I., Rubish V.M., Meshko R.O. Thermal expansion of amorphous chalcogenide materials around their glass transition temperature (2024) *Physics and Chemistry of Solid State*, 25 (2), pp. 311 – 315 DOI: 10.15330/pcss.25.2.311-315

- Rubish V.M., Kyrylenko V.K., Durkot M.O., Boryk V.V., Dzumedzey R.O., Yurkin I.M., Pop M.M., Myslo Yu.M. The influence of mercury vapor on the electrical resistance of chalcogenide amorphous films (2023) *Physics and Chemistry of Solid State*, 24 (2), pp. 335 – 340 DOI: 10.15330/PCSS.24.2.335-340
- Pogodin A.I., Pop M.M., Shender I.A., Studenyak I.P., Filep M.J., Malakhovska T.O., Kokhan O.P., Babuka T.Y., Suslikov L.M., Rubish V.M. Influence of order–disorder effects on the optical parameters of  $\text{Ag}_7(\text{Si}_{1-x}\text{Ge}_x)\text{S}_5\text{I}$ -mixed crystals (2022) *Journal of Materials Science: Materials in Electronics*, 33 (18), pp. 15054 – 15066 DOI: 10.1007/s10854-022-08422-3
- Rubish V.M., Shpak A.P. Influence of intermediate metal layers on adhesive durability of chalcogenide glassy semiconductors (2007) *Metallofizika i Noveishie Tekhnologii*, 29 (4), pp. 565 - 570
- Rubish V.M., Hasynets S.M., Hreshchuk O.M., Makar L.I., Mykaylo O.A., Pisak R.P., Rizak I.M., Solomon A.M., Yukhymchuk V.O., Yasinko T.I. STRUCTURE OF GLASSES AND COMPOSITES IN  $\text{As}_2\text{S}_3\text{-Sb}_2\text{S}_3\text{-SbI}_3$  SYSTEM (2019) *Scientific Herald of Uzhhorod University. Series Physics*, (45), pp. 27 – 38 DOI: 10.24144/2415-8038.2019.45.27-38
- Rubish V.M., Stefanovych V.O., Rubish V.V., Kostyukevych S.O., Kryuchyn A.A., Shtets P.P., Durkot V.M., Petrov V.V. Effect of an irradiation on structure and properties of light-sensitive film condensates (2006) *Metallofizika i Noveishie Tekhnologii*, 28 (5), pp. 643-655+III-IV
- Barj M., Mykaylo O.A., Kaynts D.I., Gorina O.V., Guranich O.G., Rubish V.M. Formation and structure of crystalline inclusions in  $\text{As}_2\text{S}_3\text{-SbSI}$  and  $\text{As}_2\text{Se}_3\text{-SbSI}$  systems glass matrices (2011) *Journal of Non-Crystalline Solids*, 357 (11-13), pp. 2232 – 2234 DOI: 10.1016/j.jnoncrysol.2010.11.095
- Azhniuk Y.M., Stoyka V., Petryshynets I., Rubish V.M., Guranich O.G., Gomonnai A.V., Zahn D.R.T. SbSI nanocrystal formation in  $\text{As-Sb-S-I}$  glass under laser beam (2012) *Materials Research Bulletin*, 47 (6), pp. 1520 – 1522 DOI: 10.1016/j.materresbull.2012.02.036
- Rubish V.M., Shtets P.P., Rubish V.V., Malesh V.I. Structural transformations and optical absorption spectra of  $\text{SbxSe}_{1-x}$  films (2002) *Ukrainian Journal of Physical Optics*, 3 (2), pp. 130 – 133 DOI: 10.3116/16091833/3/2/130/2002
- Azhniuk Yu.M., Bhandiwad P., Rubish V.M., Guranich P.P., Guranich O.G., Gomonnai A.V., Zahn D.R.T. Photoinduced changes in the structure of  $\text{As}_2\text{S}_3$ -Based SbSI nanocrystal-containing composites studied by raman spectroscopy (2011) *Ferroelectrics*, 416 (1), pp. 113 – 118 DOI: 10.1080/00150193.2011.577718
- Rubish V.M., Pop M.M., Pisak R.P., Makar L.I., Durkot M.O., Solomon A.M., Spesyvykh O.O., Boryk V.V., Dzumedzey R.O. Structural studies of mercury-modified amorphous films of the selenium-Antimony system (2024) *Physics and Chemistry of Solid State*, 25 (1), pp. 164 – 169 DOI: 10.15330/pcss.25.1.164-169
- Azhniuk Yu.M., Villabona A., Gomonnai A.V., Rubish V.M., Marjan V.M., Gomonnai O.O., Zahn D.R.T. Raman and AFM studies of  $(\text{As}_2\text{S}_3)_{0.45}(\text{SbSI})_{0.55}$  thin films and bulk glass (2014) *Journal of Non-Crystalline Solids*, 396-397, pp. 36 - 40 DOI: 10.1016/j.jnoncrysol.2014.04.015
- Shpak A.P., Rubish V.M., Mykaylo O.A., Kaynts D.I., Guranich O.G., Rosul R.R. Optical properties and local structure of  $(\text{As}_2\text{S}_3)_{100-x}(\text{SbSI})_x$  glasses (2010) *Ukrainian Journal of Physical Optics*, 11 (2), pp. 107 – 113 DOI: 10.3116/16091833/11/2/107/2010
- Trunov M.L., Lytvyn P.M., Nagy P.M., Csik A., Rubish V.M., Kökényesi S. Light-induced mass transport in amorphous chalcogenides: Toward surface plasmon-assisted nanolithography and near-field nanoimaging (2014) *Physica Status Solidi (B) Basic Research*, 251 (7), pp. 1354 – 1362 DOI: 10.1002/pssb.201350296

- Rubish V.M. Optical and photoelectric properties of non-crystalline antimony chalcogenides (2002) *Ukrainian Journal of Physical Optics*, 3 (3), pp. 200 – 205 DOI: 10.3116/16091833/3/3/200/2002
- Pogodin A.I., Pop M.M., Shender I.A., Filep M.J., Malakhovska T.O., Vakulchak V.V., Kokhan O.P., Bletskan D., Rubish V.M., Lisý V., Tóthová J. Band structure and optical properties of low temperature modification of Ag<sub>7</sub>PS<sub>6</sub> single crystal (2023) *Journal of Materials Science: Materials in Electronics*, 34 (20), art. no. 1508 DOI: 10.1007/s10854-023-10916-7
- Yukhymchuk V.O., Rubish V.M., Dzhagan V.M., Hreshchuk O.M., Isaieva O.F., Mazur N.V., Durkot M.O., Kryuchyn A.A., Kyrylenko V.K., Novichenko V.M., Kremenytskyi V.V., Maksimenko Z.V., Valakh M.Ya. Surface-enhanced Raman scattering of As<sub>2</sub>S<sub>3</sub> and Se thin films formed on Au nanostructures (2023) *Semiconductor Physics, Quantum Electronics and Optoelectronics*, 26 (1), pp. 49 – 58 DOI: 10.15407/spqeo26.01.049
- Shchurova T., Savchenko N., Rubish V.M., Rubish V.V., Spesivvykh A., Opachko I. Electrical and optical properties of Sb<sub>x</sub>SI<sub>1-x</sub> alloys (2005) *Journal of Optoelectronics and Advanced Materials*, 7 (4), pp. 2021 - 2027
- Shtets P.P., Rubish V.V., Malesh V.I., Rubish V.M., Semak D.C. Peculiarities of preparation and properties of glassy antimony chalcogenides (2002) *Journal of Optoelectronics and Advanced Materials*, 4 (1), pp. 159 - 162
- Rubish V.M., Durkot M.O., Kryuchyn A.A., Makar L.I., Mykaylo O.A., Pop M.M., Yasinko T.I., Holomb R.M., Kostyukevich S.O., Kostyukevich K.V., Shepelyavy P.E. The influence of laser radiation on the structure and optical properties of amorphous films in arsenic–antimony–sulphur system (2019) *Scientific Herald of Uzhhorod University. Series Physics*, (46), pp. 7 – 21 DOI: 10.24144/2415-8038.2019.46.7-21
- Mykaylo O.A., Guranich O.G., Rubish V.M., Stefanovich V.O., Shpyrko G.M., Kaynts D.I. Influence of composition, exposure, thermal annealing and pressure on structure and optical properties of As-S-Se chalcogenide glasses and thin films (2008) *Ferroelectrics*, 372 (1 PART 2), pp. 81 – 86 DOI: 10.1080/00150190802381985
- Kaynts D.I., Shpak A.P., Rubish V.M., Mykaylo O.A., Guranich O.G., Shtets P.P., Guranich P.P. Formation of ferroelectric nanostructures in (As<sub>2</sub>S<sub>3</sub>)<sub>100-x</sub>(SbSI)<sub>x</sub> glassy matrix (2008) *Ferroelectrics*, 371 (1 PART 1), pp. 28 – 33 DOI: 10.1080/00150190802385010
- Rubish V.M., Rigan M.Yu., Gasinets S.M., Gorina O.V., Kaynts D.I., Tovt V.V. Obtaining and crystallization peculiarities of antimony containing chalcogenide glasses (2008) *Ferroelectrics*, 372 (1 PART 2), pp. 87 – 92 DOI: 10.1080/00150190802381993

**Languages:** English – Intermediate level.