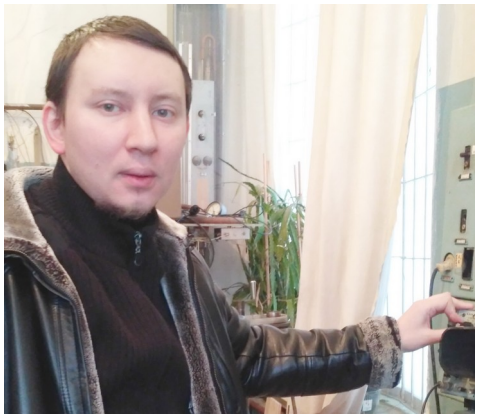
Bilych Ihor



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SCIENTIFIC DEGREE:

July 2021 Ph. D.: Doctor of Philosophy
Field of Study 10 "Natural Sciences"
Subject Area 104 "Physics and astronomy"

Ph. D. thesis: "Features of elastic, magnetoelastic and piezoelectric properties of magnetoelectrics $TbFe_3(BO_3)_4$, $HoFe_3(BO_3)_4$ and $HoAl_3(BO_3)_4$ at low temperatures.", B.Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine

EXPIRIENCE:

2016 - present	Junior Research Scientist B.Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine
2007 - 2016	Engineer, B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine

EDUCATION:

2017 - 2021	Ph. D. student, B.Verkin Institute for Low Temperature Physics and Engineering, Kharkiv, Ukraine
2006	Magister of Physics, V.N. Karazin Kharkiv National University, Ukraine
2005	Bachelor of Physics, V.N. Karazin Kharkiv National University, Ukraine

AREA OF EXPERTISE: Magnetoelasticity; physics of magnetic phenomena; phase transitions of different nature in solids; precision measurements of the elastic modules of single crystals.

List of recent relevant publications:

1. V.D. Fil., D.V. Fil., G.A. Zvyagina, K.R. Zhekov, I.V. Bilych, D.A. Chareev, M.P. Kolodyazhnaya, A. Bludov, E. Nazarova, Piezomagnetism of superconducting iron chalcogenides, Phys. Rev. B, 2021, **104**, pp. 094424
2. I.V. Bilych, M.P. Kolodyazhnaya, K.R. Zhekov, I.V. Bilych, G.A. Zvyagina, V.D. Fil., I.A. Gudim, Elastic, magnetoelastic, magnetopiezoelectric, and magnetodielectric characteristics of $HoAl_3(BO_3)_4$ [Low Temp. Phys. **46**, 923, (2020)]
3. L.S. Kolodyazhnaya, G.A. Zvyagina, I.V. Bilych, K.R. Zhekov, N.G. Burma, V.D. Fil, and I.A. Gudim, Magnetocapacitance, magnetoelasticity, and magnetopiezoelectric effect in $HoFe_3(BO_3)_4$ [Low Temp. Phys. **44**, 1341, (2018)]
4. V.D. Fil., M.P. Kolodyazhnaya, G.A. Zvyagina, I.V. Bilych, K.R. Zhekov, Piezomagnetoelectric effect in $LiCoPo_4$, Phys. Rev. B, 2017, **96**, pp. 180407(R)-1-4
5. M.P. Kolodyazhnaya, K.R. Zhekov, I.V. Bilych, G.A. Zvyagina, and A.A. Zvyagin, Reentrant low-temperature phase transition in an "orbital nematic" [Low Temp. Phys. **43**, 1276, (2017)]
6. M.P. Kolodyazhnaya, G.A. Zvyagina, I.V. Bilych, K.R. Zhekov, N.F. Kharchenko, V.D. Fil, Is $LiCoPO_4$ a pyroelectric? [Low Temp. Phys. **43**, 1240, (2017)]
7. M.P. Kolodyazhnaya, G.A. Zvyagina, I.A. Gudim, I.V. Bilych, N.G. Burma, K.R. Zhekov, V.D. Fil, Piezoelectric response in SmFe3(BO3)4, a non-piezoactive configuration. The surface piezoelectric effect [Low Temp. Phys. **43**, 924, (2017)]
8. I.V. Bilych, K.R. Zhekov, T.N. Gaydamak, G.A. Zvyagina, V.D Fil [Low Temp. Phys. **42**, 1112, (2016)]
9. T.N. Gaydamak, I.A. Gudim, G.A. Zvyagina, I.V. Bilych, N.G. Burma, K.R. Zhekov, and V.D. Fil [Low Temp. Phys. **41**, 614, (2015)]
10. G.A. Zvyagina, K.R. Zhekov, I.V. Bilych, I.A. Gudim, V.D. Fil. Magnetopiezoelectric effect and magnetocapacitance in $SmFe_3(BO_3)_4$ "Physical Review B", Vol. **92**, pp. 214428(R)-1-7 (2015)
11. G.A. Zvyagina, K.R. Zhekov, I.V. Bilych, A.A. Zvyagin, A.N. Bludov., V.A., Pashchenko, and I.A. Gudim. Magnetic field-induced phase transitions in the antiferromagnetic $Nd_{0.6}Dy_{0.4}Fe_3(BO_3)_4$ [Low Temp. Phys. **40**, 146, (2014)]
12. G.A. Zvyagina, K.R. Zhekov, I.V. Bilych, A.A. Zvyagin, I.A. Gudim, V.L. Temerov, and E.V. Eremin Magnetoelastic studies of $Nd_{0.75}Dy_{0.25}Fe_3(BO_3)_4$ in the external magnetic field: Magnetic phase transitions [Low Temp. Phys. **39**, 936 (2013)]
13. G.A. Zvyagina, K.R. Zhekov, A.A. Zvyagin, I.A. Gudim, and I.V. Bilych [Low Temp. Phys. **38**, 446 (2012)]
14. G.A. Zvyagina, K.R. Zhekov, I.V. Bilych, A.A. Zvyagin, I.A. Gudim, and V.L. Temerov Magnetic phase transitions in the $NdFe_3(BO_3)_4$ multiferroic [Low Temp. Phys. **37**, 1010 (2011)]
15. G.A. Zvyagina, K.R. Zhekov, A.A. Zvyagin, I.V. Bilych, L.N. Bezmaternykh, and I.A. Gudim [Low Temp. Phys. **36**, 279 (2010)]
16. G.A. Zvyagina, K.R. Zhekov, L.N. Bezmaternykh, I.A. Gudim, I.V. Bilych, and A.A. Zvyagin [Low Temp. Phys. **34**, 901 (2008)]

CONFERECES:

- VIII International Conference for Professionals and Young Scientists "Low Temperature Physics" - ICPYS LTP 2017 Kharkiv, Ukraine (2017)
- Anniversary X International Conference for Professionals and Young Scientists "Low Temperature Physics" (ICPYS–LTP–2019)
- International Advanced Study Conference on Condensed Matter & Low Temperature Physics 2020 (CM & LTP 2020)

Number of papers published – 88: articles – **21**, conference papers – **67**