

Curriculum vitae of Ph. D. Andrii V. TEREKHOV

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Personal Information:

First name: Andrii

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Date of birth: 6 June 1977

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Home Organization: B.Verkin Institute for Low Temperature Physics and Engineering
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All Academic Degrees Obtained:

1998 – *Bachelor of Material engineering*, Physics and Technology Faculty; National Technical University “Kharkiv Polytechnic Institute”, Ukraine.

2000 – *Master degree in Physic material science*, Physics and Technology Faculty; National Technical University “Kharkiv Polytechnic Institute”, Ukraine.

2008 - *Ph.D. in Physics and Mathematics*

Positions held (Employment history):

Since 2000, all positions from Engineer up to the Senior Researcher are held at B. Verkin ILTPE NAS of Ukraine, 47 Nauky ave., Kharkiv, 61103, Ukraine.

Research Experience:

- The study of magnetic phase transitions in $\text{PrNi}_{5-x}\text{Cu}_x$ compounds (specific heat).
- The study of superconductivity and negative magnetoresistance of some compounds with ThMn_{12} structure (resistivity, magnetization, and specific heat).
- The investigation of the peculiarity of behavior of the specific heat and magnetoresistance in some nanomaterials: fullerene C_{60} , diamond nanocomposites, carbon nanotubes with iron admixtures and triple compounds GdNiO_3 and $\text{p-La}_{0.8}\text{Mn}_{1.04}\text{O}_{3.5}$.
- The study of superconductivity and magnetism in magnetic superconductors $\text{Dy}(\text{Rh,Ru})_4\text{B}_4$, $\text{Dy}_{1-x}\text{Y}_x\text{Rh}_4\text{B}_4$, $\text{Dy}_{1-x}\text{Er}_x\text{Rh}_4\text{B}_4$, $\text{Dy}(\text{Rh,Ru})_4\text{B}_4$, $\text{REFeAsO}_{1-x}\text{F}_x$ (resistivity, magnetization, specific heat, point-contact spectroscopy).
- Magnetoresistive and magnetic studies of Bi-Mn alloys.

Recent Results Obtained:

- Detection of nontrivial behavior on temperature and magnetic field dependencies of the superconducting order parameter and upper critical fields in magnetic superconductors $\text{Dy}(\text{Rh,Ru})_4\text{B}_4$, $\text{Dy}_{1-x}\text{Y}_x\text{Rh}_4\text{B}_4$, $\text{Dy}_{1-x}\text{Er}_x\text{Rh}_4\text{B}_4$, $\text{Dy}(\text{Rh,Ru})_4\text{B}_4$, $\text{REFeAsO}_{1-x}\text{F}_x$.
- Finding and investigating of features on temperature and magnetic field dependencies resistivity and magnetization of Bi-Mn alloys.

Publications:

above 32 papers in regular physical journals. Some important publications:

1. A.G. Kuchin, V.M. Dmitriev, A.V. Terekhov, T.V. Chagovets, A.S. Ermolenko, *Magnetism of the singlet-singlet system $\text{PrNi}_{5-x}\text{Cu}_x$* , Journal of Alloys and Compounds (2004) V.368, Issue 1-2, p. 75.
2. V.M. Dmitriev, A.V. Terekhov, W. Suski, L.A. Ishchenko, J. Ćwik, T. Palewski, B.Ya. Kotur, E. Talik, *Negative magnetoresistivity of the RM_4Al_8 ($R = \text{Sc, Y, Ce, Yb, Lu}$; $M = \text{Cr, Mn, Fe}$) ternaries with the ThMn_{12} -type crystal structure*, Journal of Alloys and Compounds (2008) V.452, Issue 2, p. 217.
3. V.M. Dmitriev, E.P. Khlybov, D.S. Kondrashov, A.V. Terekhov, L.F. Rybaltchenko, E.V. Khristenko, L.A. Ishchenko, I.E. Kostyleva, and A.J. Zaleski, *Andreev reflection spectroscopy of the new Fe-based superconductor $\text{EuAsFeO}_{0.85}\text{F}_{0.15}$: Evidence of strong anisotropy in the order parameter*, Low Temp. Phys. (2011) V.37, p. 280.
4. V.M. Dmitriev, A.V. Terekhov, A. Zaleski, E.N. Khatsko, P.S. Kalinin, A.I. Rykova, A.M. Gurevich, S.A. Glagolev, E.P. Khlybov, I.E. Kostyleva, and S.A. Lachenkov, *The*

- Volleben effect in magnetic superconductors $Dy_{1-x}Y_xRh_4B_4$ ($x = 0.2, 0.3, 0.4, \text{ and } 0.6$),* Low Temp. Phys. (2012) V.38, p. 154.
5. L.F. Rybaltchenko, E.V. Khristenko, L.A. Ishchenko, A.V. Terekhov, I.V. Zolochevskii, T.V. Salenkova, E.P. Khlybov, and A.J. Zaleski, *Point-contact Andreev reflection spectroscopy of a magnetic superconductor $Dy_{0.6}Y_{0.4}Rh_{3.85}Ru_{0.15}B_4$,* Low Temp. Phys. (2012) V.38, p. 1106.
 6. A.V. Terekhov, I.V. Zolochevskii, E.V. Khristenko, L.A. Ishchenko, E.V. Bezuglyi, A. Zaleski, E.P. Khlybov, S.A. Lachenkov, *Anisotropy of electric resistance and upper critical field in magnetic superconductor $Dy_{0.6}Y_{0.4}Rh_{3.85}Ru_{0.15}B_4$,* Physica C: Superconductivity and its Applications (2016) V.524, p.1.
 7. A.V. Terekhov, K. Rogacki, A.L. Solovjov, A.N. Bludov, A.I. Prokhvatilov, V.V. Meleshko, I.V. Zolochevskii, E.V. Khristenko, J. Cwik, A. Los, A.D. Shevchenko, Z.D. Kovalyuk, and O.M. Ivasishin, *Features of magnetoresistance and magnetic properties in $Bi_{95.69}Mn_{3.69}Fe_{0.62}$,* Low Temp. Phys. (2018) V.44, p. 1153.