* **[id State Physics](http://onlinelibrary.wiley.com/subject/code/PH60/titles) >**
* [**physica status solidi (c)**](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a)**>**
* [**Vol 11 Issue 7-8**](http://onlinelibrary.wiley.com/doi/10.1002/pssc.v11.7/8/issuetoc)**>**
* [**Abstract**](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/abstract)

**JOURNAL TOOLS**

* [Get New Content Alerts](http://onlinelibrary.wiley.com/getEmailAlert?id=10.1002%2F%28ISSN%291610-1642a&originUrl=%2Fdoi%2F10.1002%2Fpssc.201300192%2Fabstract)
* [Get RSS feed](http://onlinelibrary.wiley.com/rss/journal/10.1002/%28ISSN%291610-1642a)
* [Save to My Profile](http://onlinelibrary.wiley.com/saveTitle?id=10.1002%2F%28ISSN%291610-1642a&type=JOURNAL&originUrl=%2Fdoi%2F10.1002%2Fpssc.201300192%2Fabstract)
* [Get Sample Copy](http://onlinelibrary.wiley.com/doi/10.1002/pssc.v11.1/issuetoc)
* [Recommend to Your Librarian](http://onlinelibrary.wiley.com/recommend/to/librarian/doi/10.1002/%28ISSN%291610-1642a)

**JOURNAL MENU**

* [Journal Home](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a)

**FIND ISSUES**

* [Current Issue](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/currentissue)
* [All Issues](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/issues)

**FIND ARTICLES**

* [Early View](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/earlyview)
* [Reviews](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_reviews.html)
* [Most Accessed](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_mostaccessed.html)
* [Most Cited](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_most_cited.html)

**GET ACCESS**

* [Subscribe / Renew](http://ordering.onlinelibrary.wiley.com/subs.asp?ref=1610-1642&doi=10.1002/(ISSN)1610-1642a)

**FOR CONTRIBUTORS**

* [Submit an Article](http://www.editorialmanager.com/pssc-journal/)
* [Author Guidelines](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_authors.html)
* [For Referees](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_referees.html)
* [OnlineOpen](http://wileyonlinelibrary.com/onlineopen)

**ABOUT THIS JOURNAL**

* [Editorial Board](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/edbd.html)
* [Contact](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/contact.html)
* [Advertise](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_advertise.html)
* [Overview](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/ProductInformation.html)

**SPECIAL FEATURES**

* [Editorials](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/editorials.html)
* [Best of pss](http://bestofpss.materialsviews.com/)
* [Top 100 Referees](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/pss_Top100_Refs.html)
* [Editorial information](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_editorialinfo.html)
* [For conference organizers](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_conforg.html)
* [For conference authors](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_authors_S1M.html)
* [Special issues and Conferences](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/speciss.html)
* [50 Years pss](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/pss50/index.html)
* [FAQ](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/2133_pss_faq.html)
* [Reprint Order Form (PDF)](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/pss_c.pdf)
* [Cover Gallery](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/cover/index.html)
* [Read Cover Story](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291610-1642a/homepage/cover/current.html)



**Contributed Article**

**Galvanomagnetic and thermoelectric properties of Te doped single-crystal bismuth wires**

1. A. A. Nikolaeva1,2,\*,
2. L. A. Konopko1,2,†,
3. T. E. Huber3,‡,
4. A. K. Tsurkan1,
5. D. F. Meglei1and
6. D. Yu. Matveev4

Article first published online: 14 MAY 2014

DOI: 10.1002/pssc.201300192

Copyright © 2014 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim

**Issue**



**physica status solidi (c)**

Special Issue: 16th International Conference on II–VI Compounds and Related Materials (II–VI 2013) • E-MRS 2013 Spring Meeting – Symposium C

[**Volume 11**, **Issue 7-8**,](http://onlinelibrary.wiley.com/doi/10.1002/pssc.v11.7/8/issuetoc)**pages 1373–1376**, **July 2014**

**Additional Information**[**(Show All)**](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/abstract)

[How to CiteAuthor InformationPublication HistoryFunding Information](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/abstract)

Top of Form

**SEARCH**

Search Scope

Search String

* [Advanced >](http://onlinelibrary.wiley.com/advanced/search)
* [Saved Searches >](http://onlinelibrary.wiley.com/myprofile/displaySavedSearches)

Bottom of Form

**ARTICLE TOOLS**

* [Get PDF (749K)](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/pdf)
* [Save to My Profile](http://onlinelibrary.wiley.com/saveContent?doi=10.1002%2Fpssc.201300192&originUrl=%2Fdoi%2F10.1002%2Fpssc.201300192%2Fabstract)
* [E-mail Link to this Article](http://onlinelibrary.wiley.com/emailArticleLink?doi=10.1002/pssc.201300192&issueDoi=10.1002/pssc.v11.7/8)
* [Export Citation for this Article](http://onlinelibrary.wiley.com/documentcitationdownload?publicationDoi=10.1002/(ISSN)1610-1642a&doi=10.1002/pssc.201300192&type=journal)
* [Get Citation Alerts](http://onlinelibrary.wiley.com/getCitationAlert?id=10.1002%2Fpssc.201300192&originUrl=%2Fdoi%2F10.1002%2Fpssc.201300192%2Fabstract)
* [Request Permissions](https://s100.copyright.com/AppDispatchServlet?publisherName=Wiley&publication=PSSC&title=Galvanomagnetic%20and%20thermoelectric%20properties%20of%20Te%20doped%20single-crystal%20bismuth%20wires&publicationDate=14%20MAY%202014&author=A.%20A.%20Nikolaeva%2CL.%20A.%20Konopko%2CT.%20E.%20Huber%2CA.%20K.%20Tsurkan%2CD.%20F.%20Meglei%2CD.%20Yu.%20Matveev&startPage=1373&endPage=1376&copyright=Copyright%20%C2%A9%202014%20WILEY-VCH%20Verlag%20GmbH%20%2526%20Co.%20KGaA%2C%20Weinheim&contentID=10.1002%2Fpssc.201300192&orderSource=Wileyonline&orderBeanReset=true)

[More Sharing ServicesShare](http://www.addthis.com/bookmark.php?v=250&username=ra-51225be51b56b4c4)|[Share on citeulike](http://www.addthis.com/bookmark.php?v=300&winname=addthis&pub=ra-51225be51b56b4c4&source=tbx-300&lng=en-us&s=citeulike&url=http%3A%2F%2Fonlinelibrary.wiley.com%2Fresolve%2Fdoi%3FDOI%3D10.1002%2Fpssc.201300192&title=Galvanomagnetic%20and%20thermoelectric%20properties%20of%20Te%20doped%20singlecrystal%20bismuth%20wires%20%20Nikolaeva%20%202014%20%20physica%20status%20solidi%20(c)%20%20Wiley%20Online%20Library&ate=AT-ra-51225be51b56b4c4/-/-/54c99bd5b6a100f8/2&frommenu=1&uid=54c99bd5ec732dc4&ct=1&acn=mendeley&acc=www.mendeley.com&acu=http%3A%2F%2Fwww.mendeley.com%3Furl%3D%7B%7Burl%7D%7D%26title%3D%7B%7Btitle%7D%7D&pre=http%3A%2F%2Fonlinelibrary.wiley.com%2Fdoi%2F10.1002%2Fpssc.v11.7%2F8%2Fissuetoc&tt=0&captcha_provider=nucaptcha)[Share on facebook](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/abstract)[Share on delicious](http://www.addthis.com/bookmark.php?v=300&winname=addthis&pub=ra-51225be51b56b4c4&source=tbx-300&lng=en-us&s=delicious&url=http%3A%2F%2Fonlinelibrary.wiley.com%2Fresolve%2Fdoi%3FDOI%3D10.1002%2Fpssc.201300192&title=Galvanomagnetic%20and%20thermoelectric%20properties%20of%20Te%20doped%20singlecrystal%20bismuth%20wires%20%20Nikolaeva%20%202014%20%20physica%20status%20solidi%20(c)%20%20Wiley%20Online%20Library&ate=AT-ra-51225be51b56b4c4/-/-/54c99bd5b6a100f8/3&frommenu=1&uid=54c99bd54fd25ca9&ct=1&acn=mendeley&acc=www.mendeley.com&acu=http%3A%2F%2Fwww.mendeley.com%3Furl%3D%7B%7Burl%7D%7D%26title%3D%7B%7Btitle%7D%7D&pre=http%3A%2F%2Fonlinelibrary.wiley.com%2Fdoi%2F10.1002%2Fpssc.v11.7%2F8%2Fissuetoc&tt=0&captcha_provider=nucaptcha)[Share on www.mendeley.com](http://www.addthis.com/bookmark.php?v=300&winname=addthis&pub=ra-51225be51b56b4c4&source=tbx-300&lng=en-us&s=www.mendeley.com&url=http%3A%2F%2Fonlinelibrary.wiley.com%2Fresolve%2Fdoi%3FDOI%3D10.1002%2Fpssc.201300192&title=Galvanomagnetic%20and%20thermoelectric%20properties%20of%20Te%20doped%20singlecrystal%20bismuth%20wires%20%20Nikolaeva%20%202014%20%20physica%20status%20solidi%20(c)%20%20Wiley%20Online%20Library&ate=AT-ra-51225be51b56b4c4/-/-/54c99bd5b6a100f8/4&frommenu=1&uid=54c99bd5f9492b22&ct=1&acn=mendeley&acc=www.mendeley.com&acu=http%3A%2F%2Fwww.mendeley.com%3Furl%3D%7B%7Burl%7D%7D%26title%3D%7B%7Btitle%7D%7D&pre=http%3A%2F%2Fonlinelibrary.wiley.com%2Fdoi%2F10.1002%2Fpssc.v11.7%2F8%2Fissuetoc&tt=0&captcha_provider=nucaptcha)[Share on twitter](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/abstract)

* **Abstract**
* [**Cited By**](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/citedby)

[**Get PDF (749K)**](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/pdf)

* **Go here for SFX**

**Keywords:**

* Bi-Te wires;
* electron topological transition;
* Shubnikov de Haas oscillations;
* thermopower

**Abstract**

We present a study of the electrical, transport and thermoelectric properties of Te- doped single- crystal Bi wires in a glass capillary. The tellurium concentration ranged up to the solubility limit. Measurements of resistance and thermopower were carried out over a wide range of temperatures (2–300 K) and magnetic fields (0–14 T). The shift of the Fermi level by Te doping of Bi wires is calculated from the Shubnikov de Haas oscillations. The effect of quantum confinement and the wire boundary scattering at low temperatures is significantly suppressed for Te- doped samples, which are consistent with general theoretical considerations. An anomaly of the thermopower in the form of sign inversion from negative to positive was detected at an electron concentration of ∼1×1020 cm-3. The observed anomaly disappears after further doping. The effect is interpreted in terms of the manifestation of the features in thermopower at an electronic topological transition (2 1/2 Lifshitz impurity phase transition). (© 2014 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim)

[**Get PDF (749K)**](http://onlinelibrary.wiley.com/doi/10.1002/pssc.201300192/pdf)

* **Go here for SFX**

**More content like this**

**Find more content:**

* [**like this article**](http://onlinelibrary.wiley.com/advanced/search/results?articleDoi=10.1002/pssc.201300192&scope=allContent&start=1&resultsPerPage=20)

**Find more content written by:**