

行政院國家科學委員會專題研究計畫 期中進度報告

奈米及介觀導體之量子電、熱傳輸性質之研究(1/2)

計畫類別：個別型計畫

計畫編號：NSC92-2120-M-009-007-

執行期間：92年08月01日至93年07月31日

執行單位：國立交通大學物理研究所

計畫主持人：林志忠

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報告類型：精簡報告

報告附件：出席國際會議研究心得報告及發表論文

處理方式：本計畫可公開查詢

中 華 民 國 93 年 5 月 26 日

在執行本計畫期間，我們發表了以下數篇論文：

1. *Electron dephasing near zero temperature: an experimental review*, J.J. Lin, T.J. Li, and Y.L. Zhong, J. Phys. Soc. Jpn. **72**, 7 (2003), Suppl. A. **(Invited)**
2. *Anomalous Temperature and Disorder Dependence of the Electron-Phonon Scattering Time in Impure Metals*, J.J. Lin, Y.L. Zhong, L.Y. Kao and A.J. Meikap, Physica E **18**, 302 (2003).
3. *Observation of a crossover of the inelastic electron scattering in $Sc_{100-x}Ag_x$ thick films*, T.C. Lee, J.J. Lin, and S.F. Chang, Phys. Rev. B **68**, 073407 (2003).
4. *Direct observation of long-term durability of high-temperature superconductivity in $YBa_2Cu_3O_{7-x}Ag_2O$ composites*, J.J. Lin, Y.H. Lin, S.M. Huang, T.J. Li, and T.M. Chen, Jpn. J. Appl. Phys. **42**, 6415 (2003), Part 1.
5. *Electronic transport in insulating $AlPdRe$ quasicrystals*, R. Rosenbaum, T. Murphy, B. Brandt, C.R. Wang, Y.L. Zhong, S.W. Wu, S.T. Lin, and J.J. Lin, J. Phys.: Condens. Matter **16**, 821 (2004).
6. *Competition between the charge ordered and ferromagnetic states in $(La,Nd)_{0.75}Na_{0.25}MnO_3$ manganites*, Z.Q. Li, X.H. Zhang, J.S. Yu, X.J. Liu, X.D. Liu, H. Liu, P. Wu, H.L. Bai, C.Q. Sun, J.J. Lin, and E.Y. Jiang, Phys. Lett. A **325**, 430 (2004).
7. *Anomalous temperature and disorder behavior of electron-phonon scattering times in disordered $V_{1-x}Al_x$ alloys*, J.J. Lin and A.K. Meikap, Phys. Rev. B **69**, (June 1, 2004).
8. *Low temperature electrical transport properties of RuO_2 and IrO_2 single crystals*, J.J. Lin, S.M. Huang, Y.H. Lin, T.C. Lee, H. Liu, X.X. Zhang, R.S. Chen, and Y.S. Huang, Phys. Rev. B, (in revision).
9. *Electrical resistivities and thermopowers of transparent tin-doped indium oxide films*, Z.Q. Li and J.J. Lin, Appl. Phys. Lett., submitted, (2004).
10. *Electronic transport properties of α -TiAl alloys*, D.L. Zhang, S.M. Liu, X.N. Jing, J.L. Luo, X.G. Zhang, R.J. Wang, N. Kang, Z.J. Chen, L. Lu and J.J. Lin, Phys. Rev. B, submitted, (2004).