SFB/TRR 21 - Seminar
8. Mai 2012, Stuttgart

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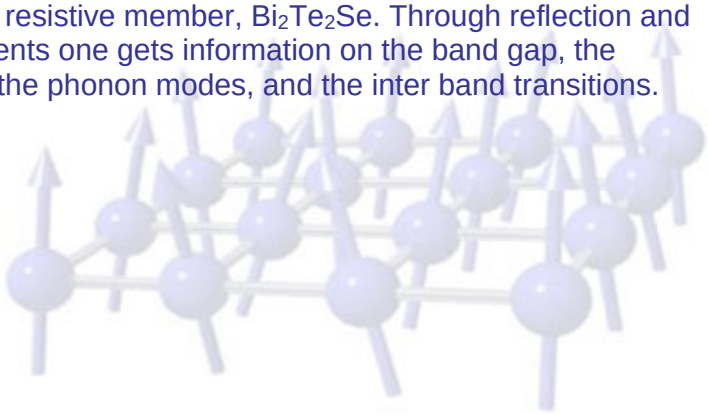
Optical properties of a topological insulator, Bi_2Te_2Se

In the search for three dimensional topological insulators, robust surface states were recently found in the family of bismuth chalcogenides $Bi_2Se_xTe_{\{3-x\}}$. The relatively large bulk band gap and metallic surface states persisting at high temperatures make this series of compounds interesting for experiments and applications.

However, in the bulk state residual conductivity arises from disorder or impurities. Much can be learned from the optical properties. In this talk I will focus on the most resistive member, Bi_2Te_2Se. Through reflection and transmission experiments one gets information on the band gap, the residual conductivity, the phonon modes, and the inter band transitions.



8. Mai 2012, 13:00 Uhr

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