

## Transport properties of high crystalline tin-doped indium oxide micro and nanobelts

Alexandre J. C. Lanfredi, Edson R. Leite  
*LIEC/CMDMC/DQ/UFSCar, São Carlos, SP, Brazil*

Adenilson J. Chiquito  
*DF/UFSCar, São Carlos, SP, Brazil*

Actually, great effort has been devoted on developing of semiconducting nanowires and nanotubes of different materials, in especially carbon nanotubes, and their application in nanodevices and nanoelectronics. Its nanoscale dimension makes them also interesting from the point of view of fundamental physics since they are structures where the quantum mechanical interactions can not be neglected. Micro and nanobelts of  $\text{In}_2\text{O}_3$  doped with Sn (ITO) with high crystallinity was synthesized by carbothermal reduction method. Using lithographic process we made contacts in individual ITO to study the resistivity measurements at different temperatures from 8K to 300K and in function of the dimensions of the crystals. The wires presented metallic conduction in large range of temperature and showed by the transport measurements vs. temperature a change of the electronic transport behavior at low temperature with decrease of the dimensions of the belts and with variation of the Sn concentration.

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