

半導體材料實驗室 Semiconductor Materials Lab.



研究方向

- 半導體材料晶體成長
- 晶質與非晶質硫屬半導體材料
- 電熱材料與熱電性質量測

研究成果

半導體材料晶體成長



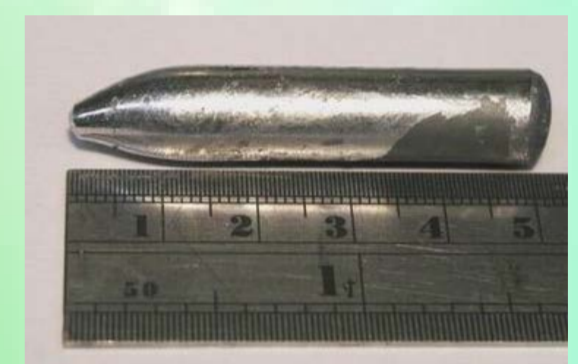
As₂(Se_{0.8}S_{0.2})₃之晶體外觀



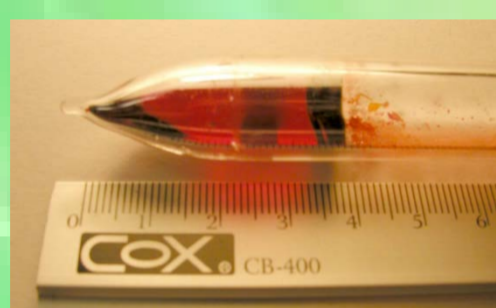
GeSe₂晶體外觀



GeSe₂晶體外觀



CdSb晶體外觀



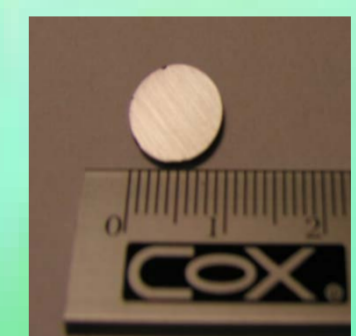
非晶質As₂S₃之外觀



非晶質As₂(S_{0.1}Te_{0.9})₃

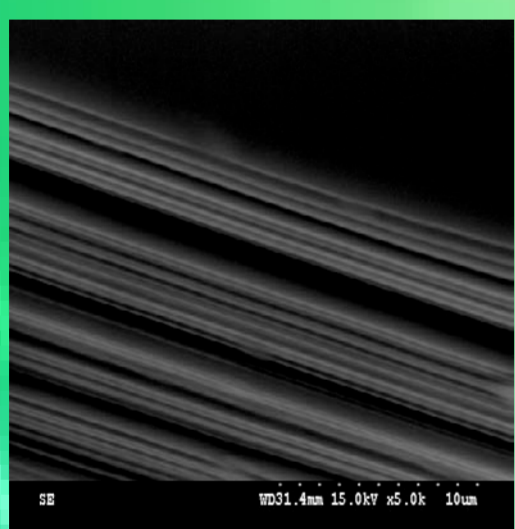


As₂Te₃晶體外觀

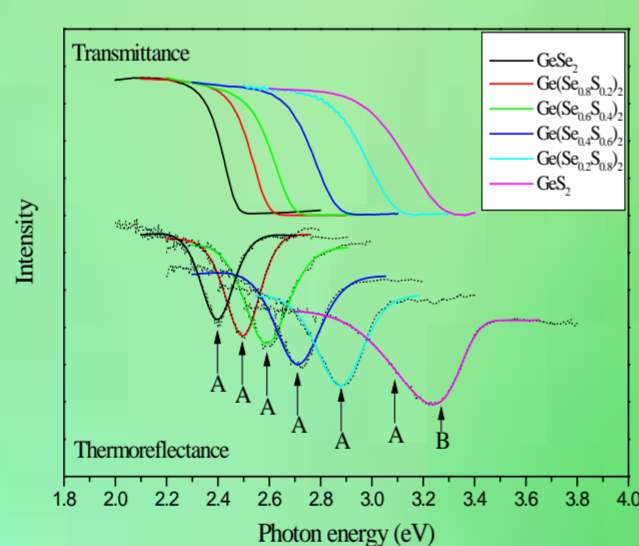


由晶柱切割之圓錠

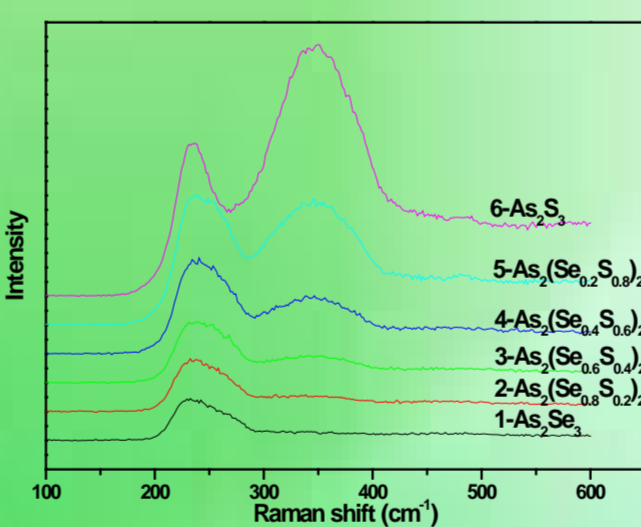
晶質與非晶質硫屬半導體材料: As₂(Se_{1-x}S_x)₃, Ge(Se_{1-x}S_x)₂, GaSe_{1-x}S_x



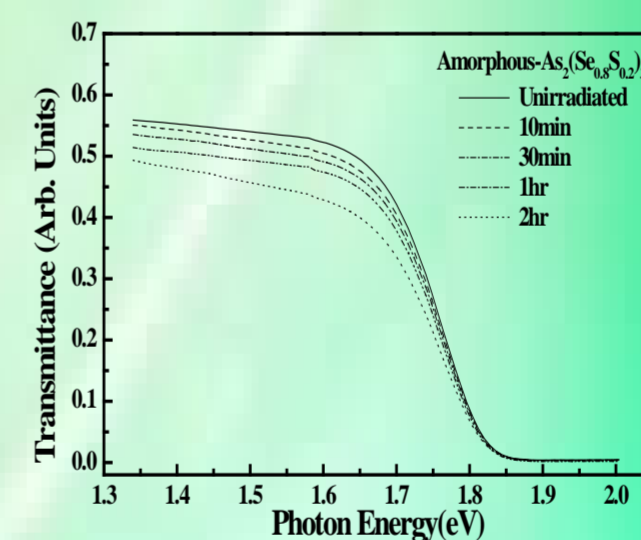
Ge(Se_{0.2}S_{0.8})₂SEM圖



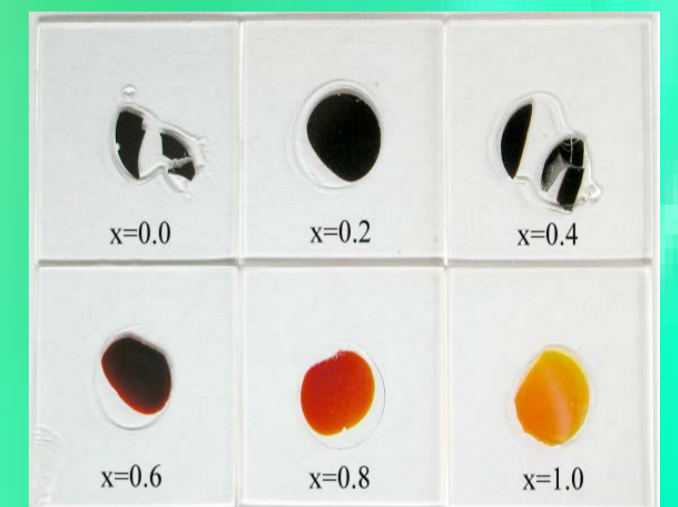
Ge(Se_{1-x}S_x)₂的TR調制光譜及透光光譜



非晶質As₂(Se_{1-x}S_x)₃薄膜化合物拉曼光譜圖

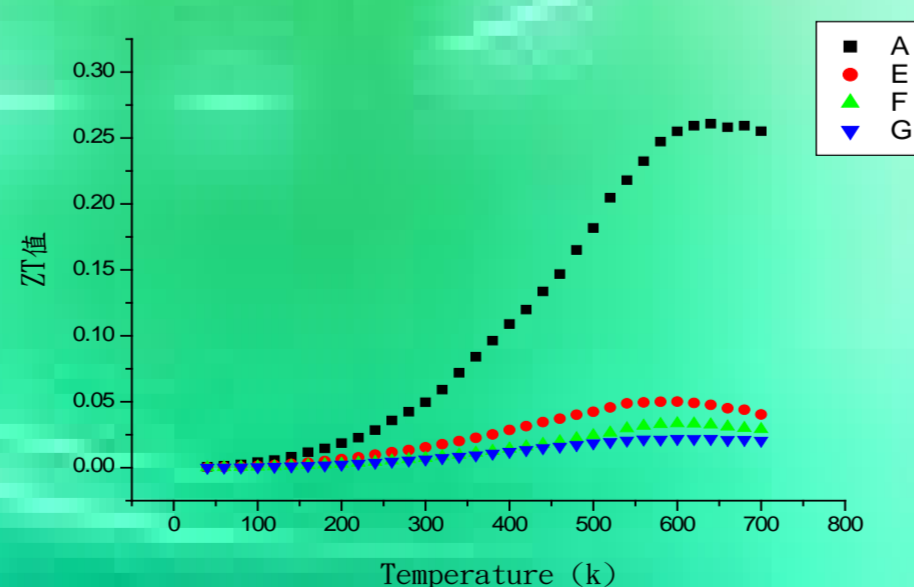


非晶質As₂(Se_{0.8}S_{0.2})₃光黑化透光光譜圖

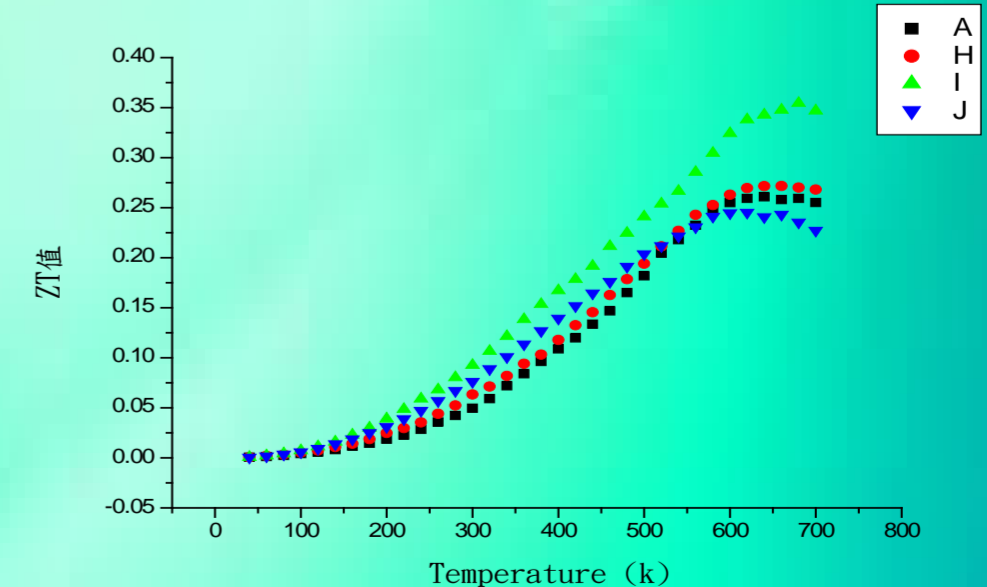


Glassy As₂(Se_{1-x}S_x)₃

中溫電熱材料: 添加不同金屬(Pb, Sn, In)二元Zn₄Sb₃及三元p型Cd-Zn-Sb與n型Pb-Bi-Te的化合物



樣品A (Zn₄Sb₃)與添加Sn樣品E、F、G之ZT值隨溫度變化圖



樣品A (Zn₄Sb₃)與添加In樣品H、I、J之ZT值隨溫度變化圖