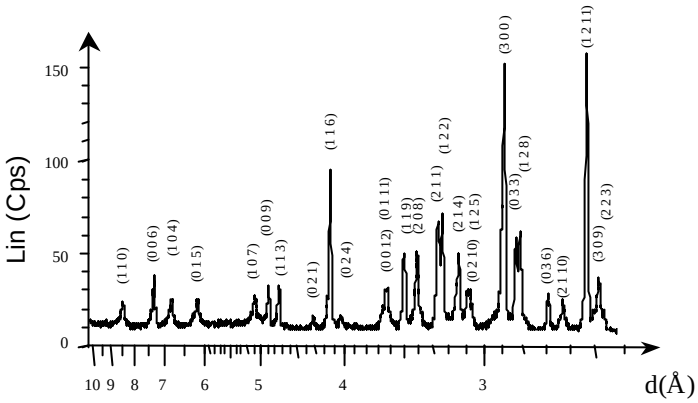

Fig. 1: X-ray pattern of the synthesised abhurite

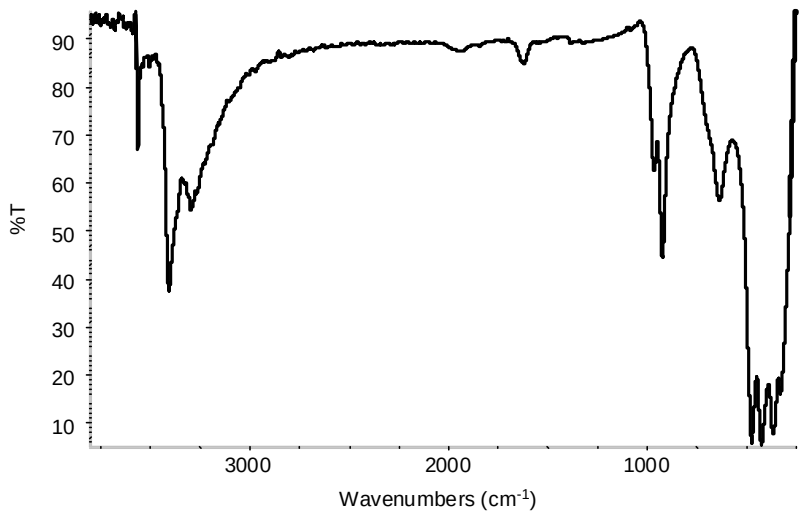

Fig. 2 :Transmission infrared spectrum of the synthesised abhurite

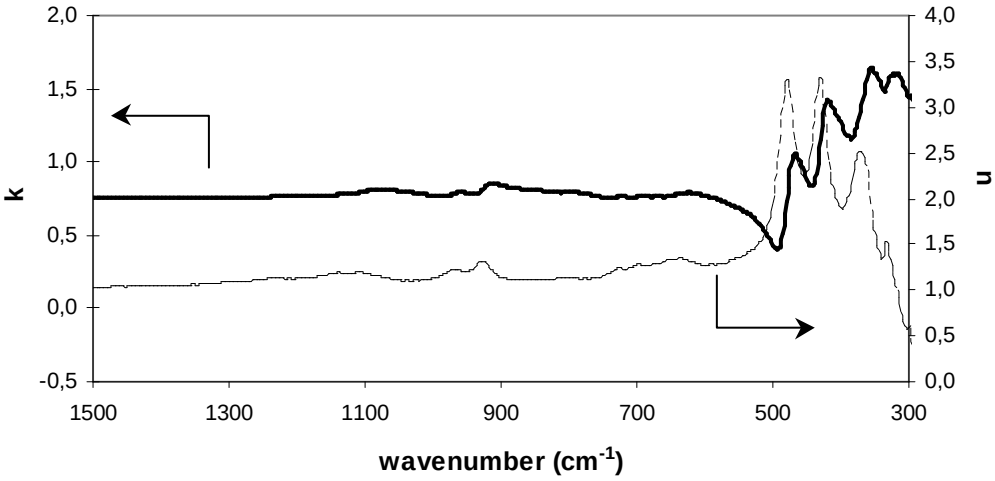

Fig. 3: Refractive index *n* and extinction coefficient *k* of abhurite versus the vibrational frequency

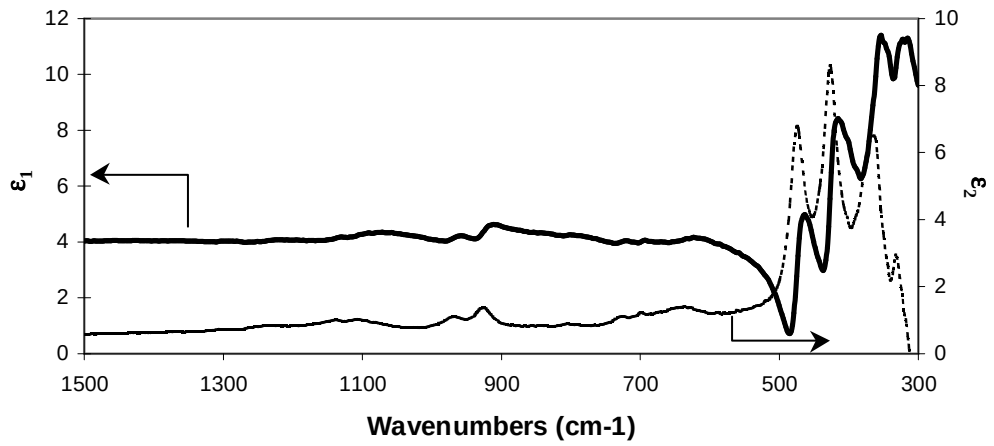

Fig. 4: Real ε_1 and imaginary ε_2 parts of the complex dielectric function ε of abhurite versus the vibrational frequency

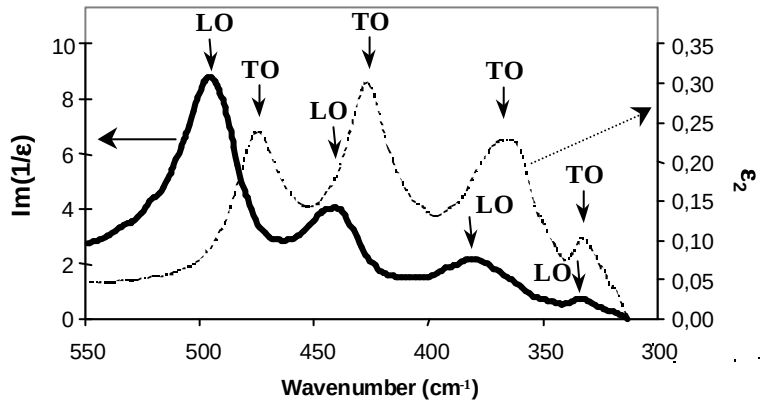

Fig. 5: Im(ε) and Im(1/ε) of abhurite versus the vibrational frequency

Fig. 5

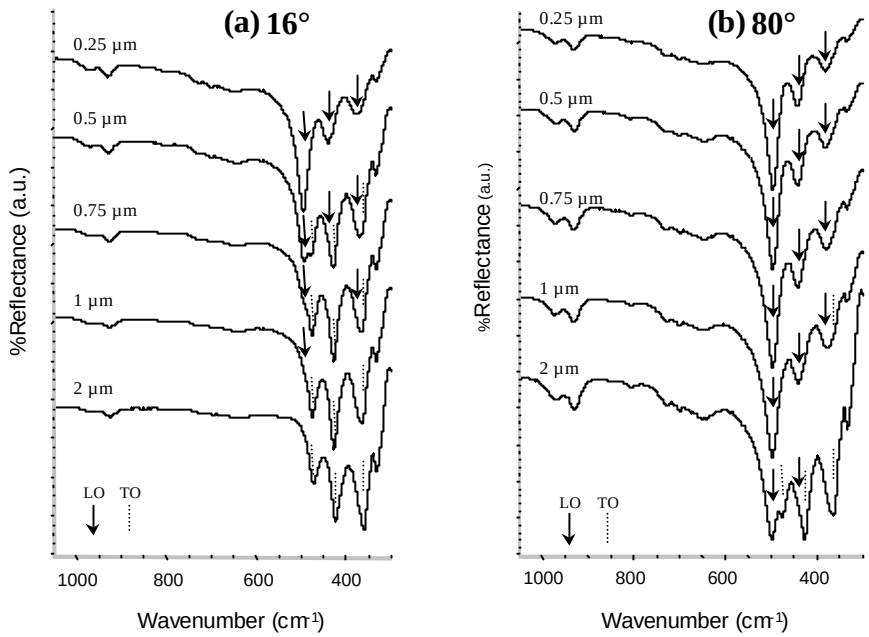

Fig. 6: Calculated infrared spectra for various thickness of abhurite on tin substrate at 16° and 80° of incidence

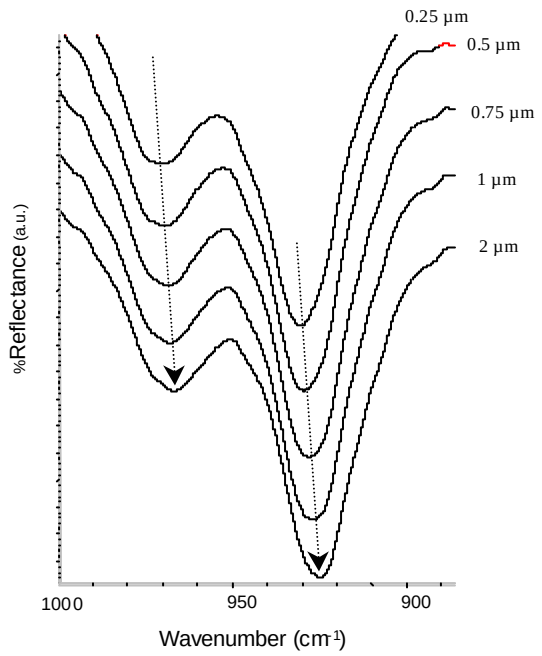

Fig. 7: Calculated infrared spectra for various thickness of abhurite on tin substrate at 16° of incidence in the range [885-1000] cm^{-1}.

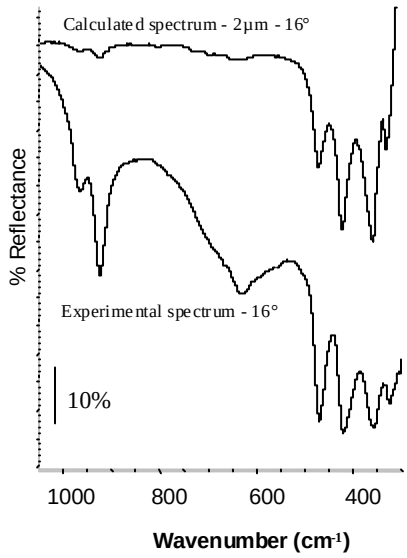

Fig. 8: Comparison of experimental and calculated infrared spectra obtained at 16° of incidence.

Fig. 8

Absorption band (cm^{-1})	3564	3407	3296	1621	966	923	634	473	425	363	328
Suggested assignments	hydroxyl stretching of OH units			water HOH bending	hydroxyl OH deformation		SnO streching	SnCl and SnO stretching			

Table 1: Position and assignment of observed bands in the IR transmission spectrum of abhurite

Positions (cm^{-1})	Assignments
497	LO
477	TO
443	LO
427	TO
381	LO
369	TO
335	LO
333	TO

Table 2 : LO and TO optical modes of abhurite