

# Photoconductivity and optical absorption of dimorphite thin films

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## Abstract

Optical absorption and photoconductivity of As<sub>4</sub>S<sub>3</sub> thin films have been studied. The absorption coefficient is shown to be influenced by the technology of film preparation, in particular by growth velocity and substrate temperature. An absorption band with maximum at  $h\nu \approx 1.9$  eV has been observed at the absorption edge for films prepared at low growth velocities. Simultaneously a maximum appears in the spectral distribution of photoconductivity, the position and width of which also depend on the technology of film preparation. The results are explained with taking into consideration the inhomogeneity of films containing  $\alpha$  and  $\beta$  dimorphites revealed by X-ray diffraction studies.