

Abstract Submitted  
for the DAMOP07 Meeting of  
The American Physical Society

**Optical properties of vanadium doped ZnTe thin cermet films**

KHAIRUL ALAM KHAN, M. SAZZAD HOSSAIN, M. REZAUL ISLAM, Dept. of App. Phys. & Electronic Engg., University of Rajshahi, Rajshahi-6205 — ZnTe:V thin cermet films (containing 0 to 10wt% V in ZnTe matrix) were prepared onto glass substrate by e-beam evaporation in vacuum at  $\sim 0.0001$  Pa. The deposition rate of the films was at about 2.05 nm/s. The effects of various deposition conditions on the electrical and optical properties of the cermet films have been studied in detail. The structure analysis of the film was performed by X-ray diffraction technique and it was found that the films are amorphous in nature. The optical properties of both the as-deposited and annealed films were studied in the wavelength range  $300 < \lambda < 2500$  nm, respectively. For both types of cermet sample, the values of Urbach tail, optical band gap, refractive index and dielectric constants were evaluated for different compositions and thicknesses, respectively. Evaluation of these parameters may help in view of their technological applications in selective surface as well as in optoelectronic devices.

Khairul Alam Khan  
Dept. of App. Phys. & Electronic Engg., University of Rajshahi, Rajshahi-6205

Date submitted: 12 Feb 2007

Electronic form version 1.4