

TEMPERATURE EFFECT IN ABSORPTION
SPECTRA OF AMORPHOUS SEMICONDUCTORS

*S. Zainobidinov, R.G. Ikramov¹, M.A. Nuritdinova¹,
R.M. Zhalalov¹*

Andizhan State University
(*Andizhan, Uzbekistan*),

¹Namangan State University
(*316, Uichinskaya Str., Namangan 716019, Uzbekistan;*
e-mail: rgikramov@mail.ru)

S u m m a r y

The absorption spectra of amorphous semiconductors become shifted toward lower energies at elevated temperatures (the temperature effect). To explain this phenomenon, we, making use of the Kubo–Greenwood formula and following the Mott–Davis method, have derived new relations for the absorption coefficient which contain only one temperature-dependent parameter, the width of the mobility gap. The formulas obtained have well described the temperature effect in amorphous semiconductors observed in experiment.