

RADIATION-INDUCED CHANGES IN OPTICAL  
TRANSMISSION IN VITREOUS  
SEMICONDUCTORS OF THE  
 $\text{Ge}_x\text{Sb}_{40-x}\text{S}_{60}$  SYSTEM

*O. I. Shpotyuk*<sup>1</sup>, *T. S. Kavetsky*<sup>1,2</sup>, *A. P. Kovalskyi*<sup>1</sup>,  
*R. V. Lutziv*<sup>2</sup>, *V. Pamukchieva*<sup>3</sup>

<sup>1</sup>Scientific Research company 'Carat'  
(202, *Stryiska Str.*, *Lviv 79031, Ukraine*),

<sup>2</sup>I. Franko Lviv National University  
(50, *Dragomanov Str.*, *Lviv 79005, Ukraine*),

<sup>3</sup>Institute for Physics of Solids, Acad. Sci. of Bulgaria  
(72, *Tsarigradsko Shosser Blvd.*, *Sofiya 1784, Bulgaria*)

S u m m a r y

The influence of  $\gamma$ -irradiation on the optical properties of chalcogenide vitreous semiconductors of the  $\text{Ge}_x\text{Sb}_{40-x}\text{S}_{60}$  ternary system is studied. It is established that a magnitude of radiation-induced effects in the investigated glasses depends on their chemical composition. It is obtained that maximum  $\gamma$ -induced changes in optical transmission reveal in glasses characterized by the average coordination number  $Z = 2.67$ , that is, near the point of the so-called topological phase transition from a two-dimensional to a three-dimensional glass structure.