

PARAMAGNETIC DEFECTS
IN PHOTOLUMINESCENT SiO_x COMPOSITE
FILMS WITH SILICON NANOINCLUSIONS

*I.P. Vorona, G.Yu. Rudko, S.S. Ishchenko, S.M. Okulov,
P.E. Shepelyavyi*

V.E. Lashkarev Institute of Semiconductor Physics,
Nat. Acad. Sci. of Ukraine
(45, Nauky Prosp., Kyiv 03028, Ukraine;
e-mail: rudko@isp.kiev.ua)

S u m m a r y

The SiO_x composite films which contain the nanosize inclusions of amorphous and crystalline silicon have been studied by means of the paramagnetic resonance methods. It is shown that the dominating paramagnetic defects in these materials are the Si dangling bond centers located in various surroundings. A role of these defects in the recombination processes occurring under the optical excitation is specified.