ON THE MANIFESTATION OF TWO-PHOTON RESONANCES UNDER THREE-PHOTON IONIZATION OF SAMARIUM ATOM

A.I. Gomonai, O.I. Plekan

Institute of Electron Physics, Nat. Acad. Sci. of Ukraine
(*21, Universytets'ka Str., Uzhgorod 88017, Ukraine;*
e-mail: vkel@mail.uzhgorod.ua; gomonai@rambler.ru)

S u m m a r y

Possible reasons for a change of the resonance structure of the two-photon resonantly enhanced three-photon ionization spectra of a Sm atom in relatively weak fields ($\varepsilon < 6 \times 10^5$ V cm^{-1}) are considered. With a variation in the laser field strength, a considerable redistribution of the amplitudes of resonance maxima is observed. The main reason for this phenomenon is shown to be related to the different conditions of the ionization process saturation for the transitions differing in their probabilities and the initial level populations.