

THREE-PHOTON LASER SPECTROSCOPY
OF EVEN-PARITY BOUND STATES
OF SAMARIUM ATOM

A. I. Gomonai, O. I. Kudelich

Institute of Electron Physics, Nat. Acad. Sci. of Ukraine
(21, Universitetska Str., Uzhgorod 88000, Ukraine;
E-mail: vkel@mail.uzhgorod.ua)

S u m m a r y

The energy spectrum of highly-excited even-parity bound states of a Sm atom, lying in the energy range $34421.1 - 36031.8 \text{ cm}^{-1}$, is investigated using three-photon resonance-ionization spectroscopy. The energies and total momenta of 48 levels are determined. Eight new levels not observed before are discovered. Thirteen intense two-photon transitions, which can be used in the schemes of Sm atom effective photoionization, are observed.