

NONCONTACT PYROELECTRIC TEMPERATURE METERS WITH SOLID-STATE MODULATOR

*L.V. Levash, A.I. Liptuga¹, V.S. Lysenko,
Yu.G. Ptushynsky, V.B. Samoylov*

Institute of Physics, Nat. Acad. of Sci. of Ukraine
(46, Nauky Ave., Kyiv 03680, Ukraine),

¹V.E. Lashkarev Institute of Semiconductor Physics,
Nat. Acad. of Sci. of Ukraine
(41, Nauky Ave., Kyiv 03680, Ukraine)

S u m m a r y

The properties of an injection semiconductor modulator of infrared (IR) radiation have been studied. The modulator is found to be a source of its own thermal radiation, which essentially complicates the procedure of weak radiation fluxes measurement. The properties of this radiation have also been studied. We have developed an original modulation block which allows one to compensate the influence of the modulator radiation on the accuracy of low intensity fluxes measurements. The design of a pyroelectric noncontact meter of local temperature with electronic radiation modulation, as well as its operation mechanism and basic parameters, are described.