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Particular of radiation transmission of monoisotopic germanium single crystals in the terahertz spectral range

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On samples of isotopically pure germanium single crystals obtained from all five stable isotopes (^{70}Ge, ^{72}Ge, ^{73}Ge, ^{74}Ge, ^{76}Ge), radiation transmittance values were measured in the terahertz spectral range (for wavelengths 30–3000 μm). Absorption coefficients were calculated; It has been found that maximum transmittance occurs in the range of 200–800 μm and the corresponding absorption coefficients for this range are less than 1 cm^{-1}.

Keywords: germanium, absorption coefficient, isotopes, terahertz spectral range (THz), phonon spectrum.

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