文献数

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Spectroscopic ellipsometry study of Cu2ZnSnS4 bulk poly-crystals
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抄録 (Abstract)
The linear optical properties of Cu2ZnSnS4 bulk poly-crystals have been investigated using spectroscopic ellipsometry in the range of 1.2-4.6 eV at room temperature. The characteristic features identified in the optical spectra are explained by using the Adachi analytical model for the interband transitions at the corresponding critical points in the Brillouin zone. The experimental data have been modeled over the entire spectral range taking into account the lowest E0 transition near the fundamental absorption edge and E1A and E1B higher energy interband transitions. In addition, the spectral dependences of the refractive index, extinction coefficient, absorption coefficient, and normal-incidence reflectivity values have been accurately determined and are provided since they are essential data for the design of Cu2ZnSnS4 based optoelectronic devices. © 2018 Author(s).

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