

## 文献

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### Optical properties of ZnTe and ZnS nanocrystals by critical-points and Tauc-Lorentz models

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#### 抄録 (Abstract)

The optical properties of ZnTe and ZnS nanocrystals (ZnTe-NC and ZnS-NC) were determined by Spectroscopic Ellipsometry. The nanocrystals were embedded in a SiO<sub>2</sub> matrix by ion implantation technique. Their sizes were characterized by transmission electron microscopy. The ZnTe-NC and ZnS-NC were modelled using Critical Points (CPs) dispersion formulas developed by Adachi. Besides the CPs model, the Tauc-Lorentz model was found to be another choice to get a good spectral fitting. Here we demonstrated that these models yield reasonable values of optical constants of II-VI nanocrystals. The best agreement was found with the experimental data over the entire range of 0.6 to 6.5 eV. © 2010 Elsevier B.V. All rights reserved.

#### 著者キーワード

Critical Points; Dielectric function; Ellipsometry; Tauc-Lorentz; ZnS nanocrystals; ZnTe nanocrystals

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