

## 文献

Schmidt, C.<sup>a</sup>, Petrik, P.<sup>b</sup>, Schneider, C.<sup>a</sup>, Fried, M.<sup>b</sup>, Lohner, T.<sup>b</sup>, Bársony, I.<sup>b</sup>, Gyulai, J.<sup>b</sup>, Ryssel, H.<sup>a,c</sup>  
**Optical characterization of ferroelectric strontium-bismuth-tantalate (SBT) thin films**  
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<sup>a</sup> Fraunhofer Inst. Intgd. Syst./D. T., Schottkystrasse 10, 91058 Erlangen, Germany

<sup>b</sup> Res. Inst. for Tech. Phys./Mat. Sci., Konkoly Thege Miklós ut 29-33, H-1121 Budapest, Hungary

<sup>c</sup> Department of Electron Devices (LEB), University of Erlangen-Nuremberg, Cauerstrasse 6, 91058 Erlangen, Germany

### 抄録 (Abstract)

Strontium-bismuth-tantalate (SBT) is a new kind of dielectric layer material for use in semiconductor devices. The optical layer parameters of SBT were characterized by spectroscopic ellipsometry using the well-known Cauchy model as well as the Adachi model (Phys. Rev. B 35 (1987) 7454-7463). A comparison of both models was performed. Furthermore, these optical data were compared with the physical and chemical behavior examined by Rutherford backscattering (RBS) and X-ray diffraction (XRD). As a result, it was possible to fit the measured spectra with both optical models. But with the Adachi model, it was possible to evaluate the optical layer parameters in a wider range than in the measured spectral range covering the region of the band gap. The Adachi model provides electronic layer parameters like the transition energy  $E_0$ . Our investigations also include the determination of the stoichiometry dependence of the optical layer parameters. © 2003 Elsevier B.V. All rights reserved.

### 著者キーワード

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