

## 文献

Djurišić, A.B., Li, E.H.

### Modelling the optical constants of SixGe1-x alloys in the range 1.7-5.6 eV

(2001) *Semiconductor Science and Technology*, 16 (2), pp. 59-65. 被引用数 3 回.

Dept. of Elec. and Electron. Eng., University of Hong Kong, Pokfulam Road, Hong Kong, Hong Kong

#### 抄録 (Abstract)

Optical constants of SixGe1-x alloys are modelled over the spectral range from 0.7 eV to 5.6 eV for all compositions  $0 \leq x \leq 1$ . The employed model is the modified Adachi's model, which utilizes variable line broadening instead of the conventional Lorentzian one. The model takes into account transitions at the indirect band gap  $E_g$  id, and critical points  $E_0$ ,  $E_0 + \Delta_0$ ,  $E_1$ ,  $E_1 + \Delta_1$ ,  $E'_0$ ,  $E_2(X)$ , and  $E_2(\Sigma)$ . Excitonic effects are not considered. The model parameters are determined using a global optimization routine, namely an acceptance-probability-controlled simulated annealing algorithm. Excellent agreement with the experimental data is obtained in the entire investigated energy and composition ranges. The obtained relative root mean square errors are below 4.5% and 6.5% for the real and imaginary parts of the index of refraction, respectively.

文献タイプ: Article

情報源: Scopus

#### Scopusについて

[製品情報](#)  
[収録コンテンツ](#)  
[ユーザーの声](#)  
[ニュース](#)  
[チュートリアル](#)

#### お問い合わせとサポート

[お問い合わせとサポート](#)  
[Live Chat](#)

#### Elsevierについて

[Elsevierについて](#)  
[SciVerseについて](#)  
[SciValについて](#)  
[Terms and Conditions](#)  
[プライバシーポリシー](#)

