

Errata

Erratum: Concentration of native point defects in Si single crystals at high temperatures [Phys. Rev. B 41, 10 741 (1990)]

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There are several errors in the original paper.

The third line in the abstract should read "The concentration fraction of native defects in thermal equilibrium at 1300 K is $(6.8 \pm 2.3) \times 10^{-5}$, or $(3.4 \pm 1.2) \times 10^{18}$ vacancies cm^{-3} ."

In Sec. I on p. 10 742, Eq. (4) should read as follows:

$$C_d = c_v - c_i = 3(\Delta l / l_0 - \Delta a / a_0) = 3 \int_{273 \text{ K}}^T [\alpha_m(T) - \alpha_l(T)] dT. \quad (4)$$

In Sec. II on p. 10 743, the 14th to 18th lines of the second paragraph should read, "Using values for $\alpha_m(T)$ and $\alpha_l(T)$ in Table II from Okaji¹⁰ and Fig. 1, we obtain the defect concentrations in Table I. Hence the defect concentration of atomic fraction estimated by Eq. (4) is $C_d = (6.8 \pm 2.3) \times 10^{-5}$ at 1300 K, or a defect concentration of $N_d = (3.4 \pm 1.2) \times 10^{18}$ vacancies cm^{-3} ." The 21st to 24th lines of the same paragraph should read, "Similarly, the concentration at 1000 K is $(2.1 \pm 3.0) \times 10^{17}$ vacancies cm^{-3} , and at the melting point (1683 K) is 1.1×10^{19} vacancies cm^{-3} ; these are determined by an extrapolation of the data in Fig. 2."

In the fifth line of the third paragraph in Sec. II on the same page, "atoms" should read "vacancies." In the eighth line of the same paragraph, " 8×10^{13} atoms cm^{-3} at 1300 K," should read " 4.8×10^{16} vacancies cm^{-3} at 1320 K." In the 10th and 11th lines of the same paragraph, "atoms" should read "interstitials."

The second to fifth lines of Sec. III on the same page should read "The total concentration of native defects in thermal equilibrium at 1300 K is $(6.8 \pm 2.3) \times 10^{-5}$, or $(3.4 \pm 1.2) \times 10^{18}$ vacancies cm^{-3} ."

The original Fig. 2 should be replaced with the figure below; the caption is unchanged.

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TABLE I. Defect concentrations C_d and N_d using $\alpha_m(T)$ and $\alpha_l(T)$ at various temperatures.

T	$\alpha_m(T)$	$\alpha_l(T)$	C_d	N_d
900	4.180×10^{-6}	4.184×10^{-6}		
1000	4.290	4.258	4.20×10^{-6}	2.10×10^{17}
1100	4.383	4.325	1.77×10^{-7}	8.90×10^{17}
1200	4.464	4.385	3.83	1.90×10^{18}
1300	4.560	4.440	6.81	3.40×10^{18}



