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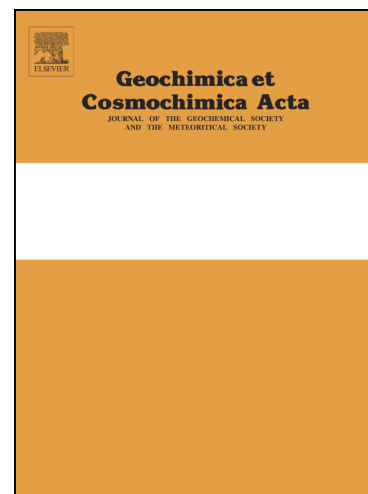
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Substitution and diffusion of Cr^{2+} and Cr^{3+} in synthetic forsterite and natural olivine at 1200-1500 °C and 1 bar

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[[note to typesetters: a_{SiO_2} and f_{O_2} , used throughout, are sub sub, i.e. a_{SiO_2} and f_{O_2}]]

Abstract

The diffusion and substitution mechanisms and Cr in forsterite were studied as a function of crystallographic orientation and the chemical potentials of all four components in the system $\text{MgO-SiO}_2\text{-Cr-O}$. Oxygen fugacity (f_{O_2}) was varied over 15.4 log units at 1400 °C and was fixed at iron-wüstite equilibrium for a temperature

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