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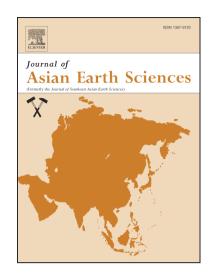
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ACCEPTED MANUSCRIPT

Geochemical Characteristics and Petrogenesis of Adakites in the Sikhote-Alin Area, Russian Far East

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Abstract

Adakitic rocks of the Sikhote-Alin area were emplaced during two main periods: the Cretaceous (132–98 Ma) and Eocene (46–39 Ma). These rocks primarily occur in the Khanka Block and, less commonly, in the Sikhote-Alin Orogenic Belt. The adakitic rocks record the following chemical compositions: $SiO_2 = 57–74\%$, $Al_2O_3 = 15–18\%$, $Na_2O = 3.5–6.1\%$, $K_2O = 0.7–3.2\%$, $Na_2O/K_2O = 1.1–3.9$, Sr/Y = 33–145, and $(La/Yb)_N = 11–53$. The HREE and HFSE in these rocks are remarkably depleted. The Early Cretaceous adakites record ε Nd(T) = -1.0 to +3.2 and $I_{Sr} = 0.7040$ to 0.7090, and the Eocene adakitic rocks record Nd(T) = -2.0 to +2.2 and $I_{Sr} = 0.7042$ to 0.7058.

Adakitic features suggest different modes of magma generation; a comparison of the Sr/Y and La/Yb ratios and geochemical data on Harker diagrams between the two periods of adakitic rocks reveals differences in their petrogenesis. The Cretaceous

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