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Electrical Resistivity of Liquid Alkali Na-based Binary Alloys

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Abstract: The study of the electrical resistivity ρ_L of alkali Na-based binary alloys $Na_{1-x}Li_x$, $Na_{1-x}K_x$, $Na_{1-x}Rb_x$ and $Na_{1-x}Cs_x$ have been made by well-recognized model potential of Gajjar et al. The most recent exchange and correlation functions due to Farid et al (F) and Sarkar et al (S) are used for the first time in the study of electrical resistivity of liquid binary mixtures and found suitable for such study. The results, due to the inclusion of Sarkar et al's local field correction function, are found superior to those obtained due to Farid et al's local field correction function. Electrical resistivity of Na-based binary alloys compare well with the experimental data available in the literature.

Key Words: Pseudopotential; Electrical Resistivity; Alkali Na-based liquid binaries

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