

Abstract Submitted  
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**Alkali and alkaline earth metal alloys at high-pressure**<sup>1</sup> AMANUEL TEWELDEBERHAN, Lawrence Livermore National Laboratory, STANIMIR BONEV, Lawrence Livermore National Laboratory and Dalhousie University — The electronic and structural properties of liquid alkali and alkaline earth metal alloys at high-pressure have been studied using first-principles molecular dynamics simulations. Pair correlation functions, static structure factors, short-range order parameters, free energies of mixing, and electronic density of states are calculated at various pressures, temperatures, and concentrations to investigate local ordering, pseudogap opening, and phase separation in the alloys. The computed electronic and structural properties are compared with pure alkali and alkaline earth liquid metals.

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