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Dear Editorial Board,

Journal of Nuclear Materials

On behalf of my co-authors and myself, I am hereby submitting our manuscript, entitled ``*First-principles-derived transport properties of molten chloride salts.”*  This article provides a computational study of transport properties (i.e., diffusion coefficient, viscosity, isochoric heat capacity, and isobaric heat capacity) of molten salts. The salts that are studied are KCl, LiCl, LiCl-KCl eutectic, MgCl2, NaCl, and NaCl-MgCl­2 eutectic. This work is the first to explore a timescale over 100 picoseconds (ps) via *ab initio*molecular dynamics for determining the transport properties of molten salts. This work serves to alleviate the current knowledge gap in the transport properties of molten chloride salts for application in fast-spectrum molten salt reactors. This work shows that a 50 ps simulation window is the minimum requirement for accurate calculation of the transport properties of molten chloride salts.

This work is new and we feel adds greatly to the scientific community.

Sincerely,

Benjamin Beeler