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Dear Editorial Board,

Journal of Nuclear Materials

On behalf of my co-authors and myself, I am hereby re-submitting our manuscript, entitled “Assessment of uranium nitride interatomic potentials”, for publication in the Journal of Nuclear Materials.

This work evaluated two UN interatomic potentials: Tseplyaev and Starikov’s ADP and Kocevski et al.’s EAM potential. The study involved assessing the predictive capabilities of these potentials for various thermophysical and elastic properties of UN, UN2, and alpha- and beta-U2N3. The Tseplyaev potential excels in capturing the energetic aspects of UN, whereas the Kocevski potential performs better in modeling the UN’s structural properties. Regarding the crystal structure stability of phases, the Kocevski potential demonstrates superior predictive capabilities. An important limitation of the Kocevski potential is its inability to predict a stable metallic U phase, making it unsuitable for studies related to UN non-stoichiometry.

We believe that we have addressed all of the reviewer comments, and extended their comments further to improve the manuscript.

Sincerely,

Benjamin Beeler