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Dear Editorial Board,

Journal of Nuclear Materials

On behalf of my co-author and myself, I am hereby submitting our manuscript, entitled “*Calculation of grain boundary diffusion coefficients in γU-Mo using atomistic simulations*”, for publication in the *Journal of Nuclear Materials*.

This article provides a computational study of diffusion in *γ*U-Mo grain boundaries. Self-diffusivities of selected grain boundaries in *γ*U-Mo alloys (*γ*U-7Mo, *γ*U-10Mo, and *γ*U-12Mo) are obtained utilizing molecular dynamics simulations for a temperature range of 600 K - 1200 K with an interval of 100 K. The grain boundaries analyzed include various symmetric tilts, asymmetric tilts, and twists. Xe diffusion along *γ*U-10Mo grain boundaries is also calculated in this work. This work serves to alleviate the current knowledge gap in diffusional properties of grain boundaries in *γ*U-Mo fuel. To our knowledge, this is the most extensive investigation of the diffusional behavior of the *γ*U-Mo grain boundaries to date.

We believe our research offers valuable insights into the behavior of the *γ*U-Mo fuel and adds greatly to the scientific community.

Sincerely,

Benjamin Beeler