Corresponding Author

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Dear Editor,

On behalf of my co-authors and myself, I am hereby re-submitting our manuscript, entitled “Molecular-dynamics study of diffusional creep in uranium mononitride”, for publication in the Journal of Nuclear Materials.

In this paper, molecular dynamics (MD) simulations are used to study UN’s diffusional creep. Nanometer-sized polycrystals are used to simulate diffusional creep and to calculate an effective GB width. To the best of our knowledge, this study is the first computational investigation of the Coble creep behavior UN, and the most thorough investigation of the mechanisms of creep in UN. This paper has clarified discrepancies in historical creep experiments through a combined creep model, providing a useful tool for fuel performance modeling. We believe our research offers valuable insights into the behavior of UN and adds greatly to the scientific community.

We have addressed all reviewer comments completely both in the response document and in the manuscript. We thank the reviewers for their efforts.

Sincerely,

Benjamin Beeler