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Dear Journal of Nuclear Materials,

On behalf of my co-authors and myself, I am hereby submitting our manuscript, entitled ``*Radiation driven diffusion in gamma U-Mo*”, for publication in the *Journal of Nuclear Materials*.

This article provides the first investigation of radiation driven diffusion in U-Mo fuels, providing key information to continuum and fuel performance models of low-temperature research reactor fuel. This work utilized an established procedure within molecular dynamics to obtain the relationship between energy deposition, ballistic mixing, and mean-square displacement, yielding radiation driven diffusion.

Prior to this study, the implemented self-diffusion coefficients for U, Mo and Xe were intrinsic diffusion which had been extrapolated to reactor-relevant temperatures. This work shows that this approximation underestimates the diffusion of these species by several orders of magnitude, potentially dramatically affecting the predicted fission gas swelling kinetics. Thus, we feel this work greatly adds to the scientific community.

Sincerely,

Benjamin Beeler