Uranium Nitride Corrosion

Ember L. Sikorski[a]

[a]*Boise State University*

Abstract

Abstract stuff

1. Introduction

- Call for accident tolerant fuel

2. Review

[1]
[2]
[3]
[4]

3. Discussion

Arkush and Liu report NO while Jolkonnen does not - environment? Combination of nitriding, adding dopants, intermetallics Nitriding reduces interactiong at room temperature, however at higher temperature higher stoichiometric UN decays to UN. Add intermetallics for ease of fabrication, nitride for room temp handling

Computational studies at odds with experiment: experiment changes starting conditions, comp changes type of study

	Starting Material	Temperature	Pressure
Jolkkonen et al. [1]	UN pellets (77 - 97%TD)	400 - 425 °C	0.05 MPa
Johnson et al. [2]	UN powder (≈20 mg)	800 °C	not reported
Lu et al. [4]	UN films	AFG	UHV
Lopes et al. [3]	UN pellets (95 - 99 % TD)	300 °C	9 MPa

4. Summary

References

CHANGE THE STYLE

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