

**Correction factor for thermal conductivity in binary
(U, 10Zr) metallic fuel**

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Abstract

The model for thermal conductivity of irradiated metallic fuel has been developed to consider the effects of temperature, gas-filled porosity and sodium infiltration. *Irradiated metallic fuel can be modelled as a two component system: pores filled with fission gas and infiltrated sodium, and fuel matrix. The thermal conductivity of pores is first calculated considering the contributions of gas and sodium. And then the irradiated fuel thermal conductivity is calculated for the 100% dense fuel matrix and pores.*

This model will be incorporated into a fuel performance analysis code to improve the prediction of irradiation behavior of metallic fuel.