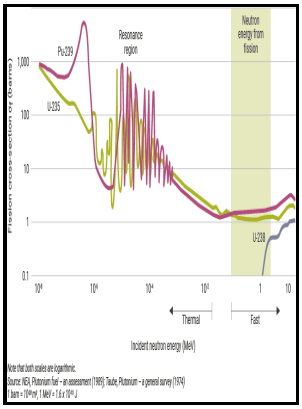
New damage function for predicting the effect of reactor irradiation on graphite in different neutron spectra

Metallurgy and Research Reactors Divisions, Atomic Energy Research Establishment - The effects induced by proton irradiation on structural characteristics of nuclear graphite



Description: -
-new damage function for predicting the effect of reactor irradiation on graphite in different neutron spectra
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Physical chermistry monograph series
AERE-R (Series) -- 4701.
AERE-R -- 4701new damage function for predicting the effect of reactor irradiation on graphite in different neutron spectra
Notes: A United Kingdom Atomic Energy Authority Research Group report.
This edition was published in 1964

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Tags: #Radiation #damage #of #graphite #in #fission #and #fusion #reactor #systems

Challenges to the use of ion irradiation for emulating reactor irradiation

Was: The role of irradiated microstructure in the localized deformation of austenitic stainless steels. Further work is planned to expand the alloy type to austenitic steels with high moderate level of Ni in the alloys. It has been recognized that the effects of dose rate, neutron spectrum, temperature, and so on can have a profound effect on the material behaviour of irradiated materials.

Radiation damage of graphite in fission and fusion reactor systems

Hubert C, Voss KO, Bender M, Kupka K, Romanenko A, Severin D, Trautmann C, Tomut M 2015 Swift heavy ion-induced radiation damage in isotropic graphite studied by micro-indentation and in situ electrical resistivity.

The effects induced by proton irradiation on structural characteristics of nuclear graphite

Irradiation results in hardening, embrittlement, and irradiation creep, and the magnitudes of the irradiation effects depend on alloy types, compositions, and irradiation temperature and stress. Seehra MS, Pavlovic AS 1993 X-ray diffraction, thermal expansion, electrical conductivity, and optical microscopy studies of coal-based graphites.

Challenges to the use of ion irradiation for emulating reactor irradiation

The predicted temperature shift with swelling changes in radiation dose rate.

Experimental study of consistency degradation of different greases in mixed neutron and gamma radiation

Simonen: Characterization on Neutron-Irradiated 300 Series Stainless Steels to Assess Mechanisms of Irradiation-Assisted Stress Corrosion Cracking; EPRI Report 101496; Electric Power Research Institute: Palo Alto, CA, 2001.

Effect of reactor radiation on the thermal conductivity of TREAT fuel

Wu K, Chang S, Hwang J, Lee C-Y, Tang H-C, Chen C-W, Liu C, Wei H, Kou C, Lee C-D 2007 Passivation effect on the liquid crystal alignment on a-C: H films: a two-step treatment by argon and hydrogen plasma beam scanning. .

Effect of reactor radiation on the thermal conductivity of TREAT fuel

Walker: Recovery of electron-irradiated copper.

Damage function for carbon at neutron energies up to 15 MeV

In Phase Stability During Irradiation, J. The stronger effect of irradiation on SS 316 than SS 304 was due to higher Ni content of SS 316 13.

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