

Investigation of Air Exposed Zry-4 Surface Chemistry

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Zirconium and Zircaloy have low thermal neutron cross-section and mechanical strength as other metals. With these characteristics, they are widely used in the nuclear energy and chemical engineering fields. In those fields, zirconium alloys are exposed to oxygen and hydrogen containing species in harsh condition. Surface chemistry of fundamental level of those systems is necessary for better understanding.

We studied the surface chemistry of air on the zircaloy-4 surface. This investigation is conducted by using XPS (X-ray Photoelectron Spectroscopy), UPS (Ultra-violet Photoelectron Spectroscopy) as a part of series of efforts.