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## Preliminary Inspection of Spent Fast Reactor Fuel Claddings

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Electrical potential testing which is a primary nondestructive testing method is used at JSC "INM" hot cells as an incoming inspection of spent BN-600 and BN-800 reactor fuel elements.

Electrical resistivity curves demonstrate the level of the fuel element defectiveness and help to work out a cladding dismantling plan for further post irradiation materials examination of the cladding problem areas.

Electrical potential testing through the electrical resistivity distribution profile enables immediate evaluation of cladding structural changes resulting from material swelling under irradiation.

Depending on the damage dose it is possible to evaluate and compare values of cladding swelling by resistograph images.

Theoretical dependence and experimental results showing the correlation between material radiation-induced swelling as well as cladding corrosion thinning and the change of electrical resistivity are shown.

The effect of radiation and technological defects on electrical resistivity change of the claddings made of ChS-68, EK-164, and EP-450 steels are discussed.

### Country/Int. Organization

Russian Federation

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