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Modeling property evolution of container materials used in nuclear waste storage[1] DONGSHENG LI, HAMID GARMESTANI, Georgia Institute of Technology, MOE KHALEEL, XIN SUN, Pacific Northwestern National Laboratory — Container materials under irradiation for a long time will raise high energy in the structure to generate critical structural damage. This study investigated what kind of mesoscale microstructure will be more resistant to radiation damage. Mechanical properties evolution during irradiation was modeled using statistical continuum mechanics. Preliminary results also showed how to achieve the desired microstructure with higher resistance to radiation.

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