Abstract Submitted
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Fabrication and Characterization of Tantalum Oxide Aerogel for Radiation Transport Experiments[1] J.F. HUND, E.M. GIRALDEZ, J.L. KAAE, R.W. LUO, A. NIKROO, General Atomics, J. MCELFRESH, UCSD — Tantalum aerogel was fabricated and machined for use as a radiation transport target. The aerogel material was synthesized as small billets from an acid catalyzed tantalum ethoxide solution. After gelation the material was supercritically dried in alcohol, providing dry aerogels with densities between 200-300 mg/cc. Slots were milled in the material as small as 100 μm wide and the piece was ultimately cut down to a 100 μm thick disk with slots. The material has been characterized for pore size/void content and surface finish. Thermogravimetric analysis of the material indicates a very rapid uptake of water in ambient conditions, consistent with its high surface area.

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