

Abstract Submitted  
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**Hybrid Shielding for Magnetic Fields** DAVID MULLINS, KEVIN ROYAL, Univ of Kentucky — Precision symmetry measurements such as the search for the electric dipole moment of the neutron require magnetic shielding rooms to reduce the ambient field to the pT scale. The massive mu-metal sheets and large separation between layers make these shield rooms bulky and expensive. Active field cancellation systems used to reduce the surrounding field are limited in uniformity of cancellation. A novel approach to reducing the space between shield layers and increasing the effectiveness of active cancellation is to combine the two systems into a hybrid system, with active and passive layers interspersed. We demonstrate this idea in a prototype with an active layer sandwiched between two passive layers of shielding.

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