



Contribution ID: 28

Type: **Poster**

## Magnetic shielding performance with spray coating

*Thursday 7 August 2025 16:35 (5 minutes)*

This contribution reports on a new spray-coating approach for magnetic shielding materials aimed at improved low-frequency field measurements with optically pumped magnetometers. Building on earlier investigations, we have successfully spray coated pure iron and Invar onto Aluminum substrates, and ongoing work explores spray coating of mu-metal. A 3-axis Helmholtz coil setup in a magnetically shielded room was used to measure the shielding effectiveness, comparing the spray-coated samples with references such as fully enclosed and partially open mu-metal cubes. Current efforts focus on extending the method to multi-layered shielding constructs of more complex structures, to achieve lightweight, flexible shielding solutions compatible with precise magnetometry.

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**Session Classification:** Poster Session and Buffet