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Additive manufacturing of copper RF structures for particle accelerator applications

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Particle accelerators, relevant to LANL's mission spaces will rely on the use of copper based rf structure for charged particle acceleration. Additively manufactured (AM) copper structures offer the usual well-known advantages in terms of relaxation of physical design (shape) constraints, and thus hold the promise of making complex shaped rf structures. To rapidly demonstrate the potential to additively manufacture accelerator structures with existing technology, a bound metal deposition (BMD) metal 3D printer will be used to build a scaled design and the results of this effort will be presented.

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Footnotes

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Yes

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