

Abstract Submitted
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Accelerator applications of engineered media SERGEY ANTIPOV,
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RATION — Material properties are vital for the field of accelerator R&D. Euclid
Techlabs in collaboration with the Argonne Wakefield Accelerator facility team has
investigated accelerator applications of metamaterials, photonic band gap struc-
tures, nonlinear, paramagnetic and ferroelectric materials. In this paper we will
present results of our work on advanced accelerating structures and accelerating ap-
plications of engineered materials. These will include wakefield test of a photonic
band gap accelerating structure, design of a dielectric loaded structure with built in
tunable paramagnetic absorption mechanism and beam diagnostics applications of
metamaterials.

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