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Ablation and Implosion Dynamics Of Coiled Wire Arrays GARETH HALL, SERGEY LEBEDEV, SIMON BLAND, JEREMY CHITTEN-DEN, FRANCISCO SUZUKI-VIDAL, PHILIP DE GROUCHY, ADAM HARVEY-THOMPSON, GEORGE SWADLING, GUY BURDIAK, LOUISA PICKWORTH, ESSA KHOORY, JONATHAN SKIDMORE, LEE SUTTLE, NICOLAS NIASSE, Imperial College, London, KWEK HIANG, University of Malaya — Coiled arrays, a cylindrical array in which each wire is formed into a single helix, suppress the modulation of ablation at the fundamental wavelength. Instead, ablation flow is modulated at the wavelength of the coil, and arrays with large coil wavelength produce an organized mode of implosion in which the global instability can be controlled. The ablation and implosion dynamics of coiled arrays in this regime were studied using a combination of resistive voltage probes and Faraday rotation. These experiments were carried out on the MAGPIE generator at Imperial College. This research was sponsored by the DOE under Cooperative Agreements DE-F03-02NA00057 and the Imperial College Junior Research Fellowship scheme.

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