

Abstract Submitted
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Overview of the Inductive Plasma Accelerator (IPA) FRC Merging/Compression Experiment¹ GEORGE VOTROUBEK, JOHN SLOUGH, MSNW, RICHARD MILROY, SIMON WOODRUFF, University of Washington — The Inductive Plasma Accelerator (IPA) is a plasmoid accelerator/interaction experiment designed to explore the acceleration, reconnection and plasma liner compression of high beta compact toroids. The initial goal of the IPA experiment is to merge two accelerated FRCs having a mass of 0.1-0.2 mg at velocities ranging from 150-250 km/s. The interaction chamber is being designed to compress the merged CTs with a theta compression coil, but eventually with a Z-theta driven plasma liner. After compression ion temperatures are predicted to exceed several keV at densities greater than 10^{22} m^{-3} . The design of the experimental device now under construction will be detailed. Preliminary results from the acceleration and merging experiments will be presented, as well as results from 2D numerical calculations of the plasma liner compression.

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