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Zero-Dimensional Energy Balance on a High Density Field-Reversed Configuration R. RENNEKE, T. INTRATOR, G.A. WURDEN, S. HSU, SHOUYIN ZHANG, Los Alamos National Laboratory — FRCs have been created in the Field-Reversed Experiment with Liner (FRX-L) with density 2-4 x 10^{22} m^{-3}, total temperature 300-400 eV, and lifetime on the order of 10 μs. We will present results of an energy balance on this high-density FRC using the method of Rej and Tuszewski (Phys. Fluids 27, p. 1514, 1984). This will include radiated energy measurements from an end-on wide-view bolometer, average pressure balance data from B-dot magnetic pick-up loops and magnetic flux loops, and profile information from a multichord interferometer. We expect conduction and convection losses to change compared to lower density experiments, due to the high-collisionality regime of these FRCs. Supported by DOE OFES contract W-7405-ENG-36.

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