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A new approach to confine the high-density Nonneutral plasma JIA XU, Washington State University, ALIREZA NARIMANNEZHAD, CHRISTOPHER BAKER, MARC WEBER, KELVIN LYNN, CENTER FOR MATERIALS RESEARCH TEAM — In this paper a new method to confine the high-density pure positron plasma is proposed. The limit of the plasma confinement has been discussed and a modified Malmberg-Penning trap with high aspect ratio is presented. A feasibility study of these traps simulated by two different programs: WARP code and the Charge Particle Optics program (CPO). With different configuration of the initial conditions in the simulation, the results have indicated that with the decreasing trap radius, the density of the plasma can increase accordingly, which agree with the analytical prediction.

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