

Abstract Submitted
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Laboratory studies of active space experiments R.A. BAMFORD, R. LAMOURE, J. BRADFORD, B. KELLETT, R. BINGHAM, Rutherford Appleton Lab, UK, K.J. GIBSON, Uni of York, UK, E.P. ALVES, L.O. SILVA, IST, Lisbon, Portugal, L. GARGATE, Princeton, US, T.N. TODD, CCFE, Culham Lab, UK — Laboratory experiments have been conducted on the formation of diamagnetic and plasma cavities in collisionless flowing plasma streams interacting with stationary plasma structures. Previous laboratory experiments using a purely magnetized target successfully created a cavity much smaller than the ion Larmor radius. Similar sub-ion Larmor orbit radii cavities are observed on the Moon and on asteroids like Ida and Gaspra. Active space experiments such as AMPTE (Active Magnetospheric Particle Tracer Explorer) conducted in space also resulted in the formation of a small scale diamagnetic cavity. We have conducted laboratory experiments that provide a more controlled environment to investigate interacting plasmas. Results are presented of investigations of cavities in a laboratory supersonic flowing plasma.

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