Abstract Submitted
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2D Structure of RWM Plasma[1] DAVID HANNUM, G. FIKSEL, C.B. FOREST, R.D. KENDRICK, University of Wisconsin-Madison — The rotating wall machine is a linear screw-pinch built to study the role of different wall boundary conditions on the resistive wall mode (RWM). Its plasma is created by a hexagonal array of electrostatic guns. The central seven guns can be biased to discharge up to 1 kA of current. A probe inserted from the opposite end of the chamber combines magnetic pickup loops with singletip Langmuir electrodes. The loop signals are electronically integrated for a current measurement, while the singletip analysis employs a multivariable fitting routine on the I-V curve to derive the traditional Langmuir measurements. The probe can move over the length of the 1.2-meter long plasma column for 2D profiles of q, T_e, n_e and V_p in r and z. Individual gun streams are seen to coalesce into a single plasma column, with density peaking in the center even as the plasma edge spreads out to the wall.

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David Hannum
UW-Madison

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