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A planar geometry platform for accessing ignition length-scale coronal plasmas on Omega.[1] NIGEL WOOLSEY, LUCA ANTONELLI, MATT KHAN, University of York, ROBBIE SCOTT, KEVIN GLIZE, STFC Rutherford Appleton Laboratory, MIKE ROSENBERG, WOLFGANG THEOBALD, RICCARDO BETTI, MINGSHENG WEI, LLE University of Rochester, WARREN GARBETT, AWE, STEFANO ATZENI, ANGELO SCHIAVI, University Rome La Sapienza, VLADIMIR TICKHONCHUK, DIMITRI BATANI, ALEXIS CASNER, University of Bordeaux — Experiments performed at Omega have achieved similar density length scales to those anticipated for ignition-scale shock-ignition direct drive inertial confinement fusion implosion using, for example, polar-direct geometry on the National Ignition Facility. This enables the study of parametric instabilities, and in particular SRS and the generation of hot electrons, in plasmas that approximate the conditions relevant to shock ignition. These experiments use an open-cone target to ensure efficient laser-to-target coupling with 20 Omega beams from the 2348and 62cones. The high angle cone beams were used to create a large focal spot and plasmas density length scales approaching 500 μm, whilst the 23beams use smaller phase plates and drive a more intense beam into this plasma. Here we will discuss the design of the experiment and our analysis of the SRS and hot electron measurements.

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