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**Commissioning of a wire-point projection backlighting platform for Rayleigh-Taylor instabilities experiments on Omega EP**[1] ALEXIS CASNER, L. CEURVORST, V. BOUFFETIER, T. GOUDAL, CELIA, G. RIGON, P. MABEY, B. ALBERTAZZI, M. KOENIG, LULI, R.H.H SCOTT, K. GLIZE, STFC Rutherford Appleton Laboratory, N. WOOLSEY, L. ANTONELLI, University of York, W. THEOBALD, Laboratory of Laser Energetics, P. TZEFERACOS, University of Chicago, T. PIKUZ, University of Osaka — A novel HED experimental platform was fielded at OMEGA EP to study the highly nonlinear phase of the Rayleigh-Taylor Instability (RTI) in scaled laboratory conditions relevant for the physics of young Supernova Remnant. This platform is a scale-up version of preliminary experiments performed at smaller drive energy on LULI2000. The long pulse beams of EP were used to drive the RTI whereas its evolution is probed by transverse point-projection radiography used thin titanium wires irradiated by one short pulse beam (50 ps, 700 J, 75 m focal spot). Here we will discuss the design of the experiment with radiative magneto-hydrodynamics code FLASH, the radiographies acquired as well as their sensitivity to experimental details such as target alignment or backlighter hard x-ray spectrum. Based on these results, prospects for improvements for future experiments on MJ scale facilities are presented, in association with possible novel advanced high -resolution x-ray diagnostics.

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