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Design of Thin-Au-Coating Sphere experiments on the OMEGA Laser to examine Hohlraum model[1] DOV SHVARTS, University of Michigan, Nuclear Resreach Center-Negev, Israel, EREZ RAICHER, MATAN BEN DOV, Soreq Research Center, Israel, KEVIN H. MA, University of Michigan, ELAD MALKA, Nuclear Research Center-Negev, Israel — Experiments performed by LLNL on OMEGA studying X-ray conversion efficiencies for Au (Dewald et al. PoP 2008), resulted in a "liberal" flux limiter value of 0.15 (the High Flux Model (Rosen et al. HEDP 2011)) needed to match simulations with these measurements. However, simulations using this HFM do not fit NIF Hohlraum experiments (Jones et al. PoP 2017) and a much more restrictive f=0.03, related by the authors to Ion Acoustic Turbulence (IAT), was found to better fit the experimental data. This f=0.03 does not fit the Au-Sphere data (Rosen et al. APS/DPP conference 2015). We re-examine the Au-Sphere simulations accounting for Ion Acoustic Turbulence effect on the thermal electron flux inhibition and enhanced laser absorption near critical density (K. Ma et al. APS/DPP conference 2016). New experiments, using thin Au-coatings (0.1-0.5mic) instead of thick (7mic) Au layers, are proposed to explore time dependent Thermal (0-2KeV) and M-band (2-4KeV) emissions as a function of Au-Coating thickness, using various values and models for flux limiter, and laser absorption. These new experiments are expected to add more restrictions to the development of new models.

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Dov Shvarts
University of Michigan, Nuclear Resreach Center-Negev, Israel

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