Increased x-ray conversion efficiency from ultra high contrast, relativistic laser pulse irradiation of large aspect ratio, vertically aligned nanowires

R.C. HOLLINGER, C. BARGSTEN, V.N. SHLYAPTSEV, Colorado State University, V. KAYMAK, A. PUKHOV, Institut fur Theoretische Physik Heinrich Heine Universitat Dusseldorf, M.G. CAPELUTO, Departamento de Fisica, Universidad de Buenos Aires, Y. WANG, S. WANG, A. ROCKWOOD, A. CURTIS, J.J. ROCCA, Colorado State University — Recent experiments at Colorado State University have shown that the effective trapping of clean, Joule-level fs laser pulses of relativistic intensity in arrays of high aspect ratio aligned nanowire creates multi-kev, near solid density, large scale (>4μm deep) plasmas. The drastically decreased radiative life time and increased hydrodynamic cooling time from these plasmas increases the x-ray conversion efficiency. We measured a record conversion efficiency of ~10% into hv>1KeV photons (2π steradians), and of 0.3% for hv>6KeV. The experiments used Au and Ni nanowires of 55nm, 80nm and 100nm in diameter with 12% of solid density irradiated by high contrast (>10^{12}) pulses of 60fs FWHM duration from a frequency doubled Ti:Sa laser at intensities of I=5x10^{19}Wcm^{-2}. We also present preliminary results on x-ray emission from Rhodium nanowires in the 19-22KeV range and demonstrate the potential of this picosecond X-ray source in flash radiography.

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Reed Hollinger
Colorado State University

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