Abstract Submitted
for the APR08 Meeting of
The American Physical Society

K_α conversion efficiency from rare gas jets irradiated by ultra short laser pulses NATHAN KUGLAND, UCLA Physics, PAUL NEUMAYER, LLNL, ANDREW COLLETTE, CARMEN CONSTANTIN, UCLA Physics, EDUARD DEWALD, TILO DOEPPNER, DUSTIN FROULA, LLNL, FREDERIC GIRARD, CEA, SIEGFRIED GLENZER, LLNL, ANDREA KRITCHER, UC Berkeley Nuclear Engineering, CHRISTOPH NIEMANN, UCLA Physics — The absolute laser conversion efficiency to K_α-like inner shell x-rays (integrated from K_α to K_β) is observed to be an order of magnitude higher in argon gas jets than in solid targets due to enhanced emission from higher ionization stages following ultra short pulse laser irradiation. Excluding the higher ionization stages, the conversion efficiency to near-cold K_α is the same in argon gas jets as in solid targets. In krypton gas jets, we present conversion efficiency exclusively into near-cold K_α and K_β. This work was performed under the auspices of the U.S. Department of Energy by the Lawrence Livermore National Laboratory, through the Institute for Laser Science and Applications, under contract DE-AC52-07NA27344.

Nathan Kugland
UCLA Physics

Date submitted: 14 Jan 2008 Electronic form version 1.4