Abstract Submitted
for the DPP08 Meeting of
The American Physical Society

High contrast lasr-based Mo K-alpha X-ray source at ALLS CRISTINA SERBANESCU, SYLVAIN FOURMAUX, INRS-EMT, RUSSEL KINCAID, Syracuse University, ANDRZEJ KROL, SUNY Upstate Medical University , JEAN CLAUDE KIEFFER, INRS-EMT — We report an efficient Mo K-alpha x-ray source produced by tightly focusing high contrast 60 fs, 10 mJ, 100 Hz frequency doubled Ti:Sapphire laser pulses on solid molybdenum targets. The x-ray source gives a sufficient spatial coherence to acquire phase contrast images. X-ray phase contrast allows seeing features not visible in conventional absorption contrast and thus, it is of great interest for biomedical applications, which require high-resolution images. The size of the resultant K-alpha x-ray emission spot, the x-ray spectrum, and the x-ray conversion efficiency are characterized and they will be presented and discussed. Such a high contrast, high repetition rate K-alpha x-ray source can be very useful for x-ray imaging.

Sylvain Fourmaux
INRS-EMT

Date submitted: 20 Jul 2008 Electronic form version 1.4