## Abstract Submitted for the DPP06 Meeting of The American Physical Society

Neutron Generation in Colliding Foils for Impact Fast Ignition T. WATARI, T. SAKAIYA, H. AZECHI, M. NAKAI, H. SHIRAGA, K. SHIGEMORI, H. HOSODA, M. MURAKAMI, K. MIMA, Institute of Laser Engineering, Osaka University, M. KARASIK, J. GARDNER, J. BATES, D. COLOMBANT, J. WEBER, S. OBENSCHAIN, Naval Research Laboratory , Y. AGLITSKIY, Science Application International Corporation — We have proposed a new ignition scheme of Fast Ignition, called "Impact Fast Ignition¹ (IFI)", in which a compressed fuel is ignited by impact collision of a fragment of separately imploded fuel. We have started the experiment that used CD colliding foils as the fundamental experiment of the IFI. We used the target which consists of two CD foils (thickness of 20  $\mu$ m) with a 600  $\mu$ m separation. We have irradiated one of the CD foils by a drive-laser (the energy of 2 kJ) and accelerated. The accelerated CD foil collides with another foil, and the neutrons were generated by the nuclear fusion reaction on the heated foil. In this experiment, we measured the neutron yield of  $10^6$ . We will present the experimental details and results.

<sup>1</sup>M. Murakami et al., Nucl. Instrum. Meth. Phys. Res. A **544**, 67 (2005).

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