Abstract Submitted
for the DPP08 Meeting of
The American Physical Society

Progress of the Fast Ignition REalization EXperiment (FIREX) Project H. AZECHI, K. MIMA, S. FUJIOKA, H. HOMMA, T. JITSUNO, T. JOHZAKI, J. KAWANAKA, M. KOGA, N. MIYANAGA, H. NAGATOMO, K. NAGAI, M. NAKAI, H. NISHIMURA, T. NORIMATSU, N. SARUKURA, K. SHIGEMORI, H. SHIRAGA, Inst. Laser Eng., Osaka Univ., R. KODAMA, H. HABARA, K.A. TANAKA, Grad. School. Eng., Osaka Univ., A. IWAMOTO, O. MOTOJIMA, T. OZAKI, H. SAKAGAMI, National Inst. Fusion Sci., T. TAGUCHI, Setsunan Univ. — Fast ignition has a potential to achieve ignition and burn with about one tenth of laser energy required for ongoing NIF and LMJ programs. With the fast ignition, the fuel compression and heating are separated, with ignition initiated by a short very high power laser pulse incident on the already compressed fuel. The fast heating of a compressed core, together with the scalability to high-density compression, provided the scientific basis of the Fast Ignition Realization EXperiment (FIREX) project. The goal of its first phase (FIREX-I) is to demonstrate ignition temperature of 5-10 keV, followed by the second phase (FIREX-II) to demonstrate ignition and burn. Coupled with the achievement of central ignition, the research focus would converge onto an international laser fusion test reactor that can deliver net electric power.

H. Azechi
Inst. Laser Eng., Osaka Univ.

Date submitted: 21 Jul 2008 Electronic form version 1.4