

Abstract Submitted  
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**NUBEAM simulation for off-axis NBI design in KSTAR** YOUNG BAE, LAURENT TERZOLO, National Fusion Research Institute, JIN PARK, Oak Ridge National Laboratory — The off-axis neutral beam injection (NBI) is being required for the off-axis current drive with capability of providing broaden current and pressure profile to achieve high performance steady state operation in KSTAR tokamak. The off-axis NBI design has two off-axis neutral beam injectors with maximum beam energy of 100 keV and the same tangency radius as the central beam in existing on-axis NBI in KSTAR. Characteristics of beam heating and current drive of off-axis NBI is simulated using NUBEAM code. The NUBEAM code calculates the current drive, the torque, the power absorption to ion and electron, and the beam loss using a Monte Carlo modeling of fast ion species. The predictive study of the high performance steady state operation scenario using off-axis NBI and RF heating is also presented using fast iterative integrated transport code, FASTRAN

Young Bae  
National Fusion Research Institute

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