Development of High Intensity D-T Fusion Neutron Generator and its Experimental Campaigns

Yican WU

➢ Neutron is the essential element of nuclear energy system and nuclear technology application, D-T fusion neutron source can serve in fission/fusion energy and also other nuclear technology application.

➢ HINEG-I is fully completed, D-T fusion neutron yield reach $6.4 \times 10^{12}$ n/s.

➢ HINEG-IIa aims to reach a neutron yield of $10^{15}$-$10^{16}$n/s; pre-research of high power tritium target and high intensity beam transport is on-going.

➢ HINEG project will research on neutronics theory, nuclear data and program validation, materials radiation damage in high neutron radiation environment, neutronics performance of blanket/reactor, and also will expand nuclear technology applications.