

Gamma-ray spectrometer (GRS) is embedded into neutron dump of the NPA system (55.E8). It can support NPA data on the following key ITER measurements:

- 11: Fuel ratio in plasma core (020: nd/nt core),
- 28: Ion temperature profile (064: Core Ti),
- 30: Confined alphas and fast ions (069: Alpha Energy Spectrum);

GRS can independently measure about 10 ITER parameters, being unique in providing independent data on distribution functions for each of the fast ions and runaway electrons. GRS includes  $\text{LaBr}_3$  and HPGe detectors detecting plasma  $\gamma$ - emission going through NPA beamline and neutron attenuator. New results on signal simulation (example shown on the right pic.), based on MCNP calculations and plasma emission analysis, details the application of the diagnostic for listed tasks. Conceptual and preliminary designs of the spectrometer was approved by the ITER IO.

