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2026 Design of Compact Neutron Spectrometer for JT-60SA

D. Rigamonti¹ on behalf of the WPSA Enhancement neutron team^{1, 2, 3, 4}

¹Institute for Plasma Science and Technology, National Research Council of Italy, Milan, Italy

²Department of Physics and Astronomy, Uppsala University, Sweden

³National Centre for Nuclear Research, A. Sołtana 7 str., 05-400, Otwock-Świerk, Poland

⁴Department of Physics, University of Milano-Bicocca, Milan, Italy

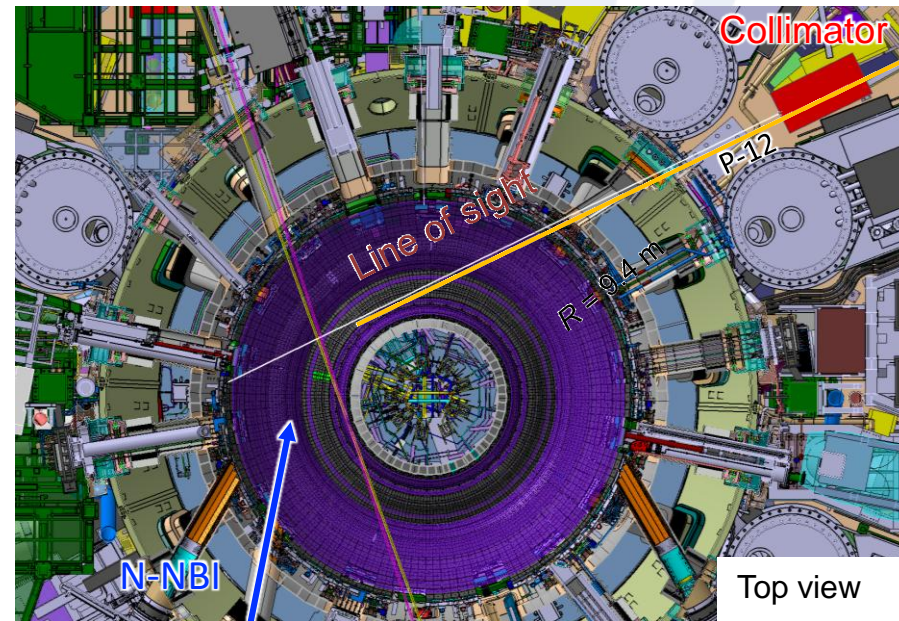
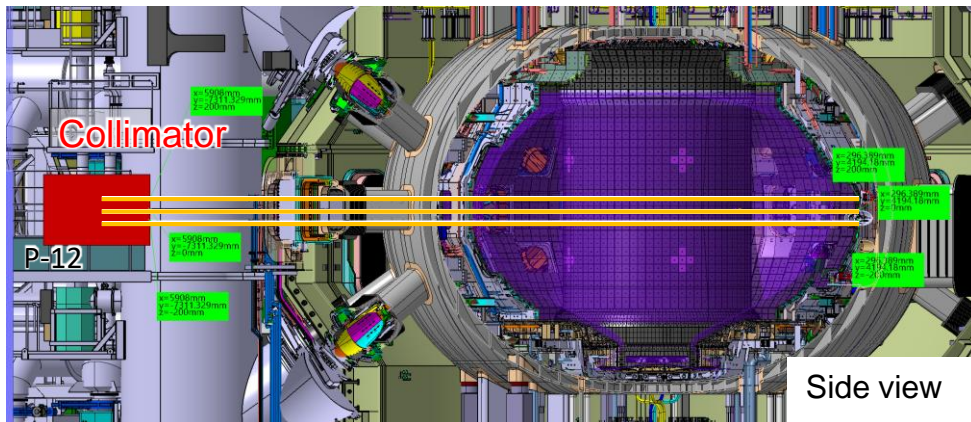


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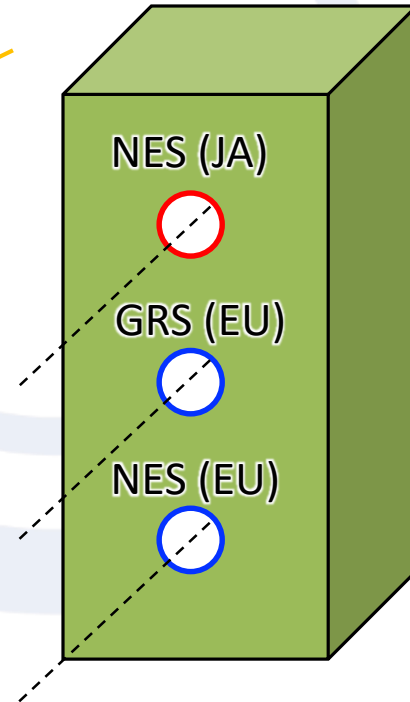


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- Task description: Design a Compact Neutron Spectrometer based on LaCl_3 scintillator coupled to a **photomultiplier tube** to be installed in the shared collimator in P12
- The team will perform activities on:
 - Design of the detector
 - Assessment of detector performances
 - Definition of preliminary interface assessment
- Budget: 4 PM



Shared collimator





Status and plan

Current status: Detector location has been identified in the shared collimator in P12. The technology composing the diagnostic has been defined. Preliminary assessments on the magnetic shielding of the diagnostic has been defined.

Work plan in 2026: Evaluate the neutron fluxes (from Uppsala team) at the detector location for different collimator apertures. Define the detector size based on neutron fluxes and provide the preliminary interface assessment.

Other: Compare the calculated neutron fluxes with the one obtained by QST team. Cross-check the information with the QST team. Neutron and gamma background at the detector position already evaluated? Meeting on LoS interference to be done with F4E and QST.