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## **Oral\_1\_ITER DIA: Design of the ITER Radial Neutron Camera (RNC)**

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The paper presents an overview of the design status of the ITER Radial Neutron Camera. The main role of this system is to provide, through reconstruction techniques applied to the line-integrated neutron fluxes, the time resolved measurement of the neutron and  $\alpha$ -source profile (i.e. Neutron Emissivity, neutrons emitted per unit time and volume) in ITER. The RNC is composed of two subsystems –In-Port-Plug (IPP) and Ex-Port-Plug (EPP) respectively dedicated to probe the outer and inner plasma cross section regions. The Preliminary Design Review of the IPP subsystem has been recently carried out successfully, which brings this subsystem to a more advanced design stage. We will focus on the description of the diagnostic and its interfaces, the performance analysis and the R&D and tests on candidate neutron detectors.

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