

Calorimetry Measurements for Cross-Calibration of Neutron Diagnostics

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55.GG is envisaged as a system calculating total fusion power independently from neutronic measurements. To do that it is going to find the total tokamak power based on the data coming from TCWS (Tokamak Cooling Water System). The total fusion power will be then determined by subtracting the inputs from auxiliary power systems and analysing thermal balance of the machine. This allows for neutron flux monitors to be calibrated, assuming clear dependence between the fusion power and the neutron flux.

The system it is still in the conceptual phase. The presentation shows the general idea of the system and its current status. The general requirements coming from SRD and several possible power reconstruction algorithms are presented. Thermal systems that are of interest for calorimetry have high inertia, thus it is not going to be used for on-line control and will provide time-averaged or integrated values.