

## Status of the ITER ICRF system design - ‘Externally Matched’ option

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The design of the ITER ICRF system has been under revision for several years. The status of the design proposal [1] based on a 24 strap antenna plug (6 poloidal by 4 toroidal short radiating conductors) is presented. Its main electrical features are the following:

(i) The straps are passively combined in 8 poloidal triplets by means of 4-port junctions.

(ii) These triplets are connected in parallel pairwise through matching elements (line stretchers) to form 4 load-resilient conjugate-T circuits [2].

(iii) All adjustable matching elements are located outside the plug, i.e. in the ITER port cell and in the generator area.

We shall discuss the electrical and thermo-mechanical choices made in the design to meet the highly challenging system functional requirements in the environment of ITER.

[1] A. Messiaen et al., AIP Conf. Proc. **694** p.142 (2003); P. Dumortier et al., *ibid.* p.94.

[2] P.U. Lamalle et al., AIP Conf. Proc. **787** p.158 (2005) .