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The IGNITOR ICRF system R. MAGGIORA, V. KYRYTSYA, V. LANCELLOTTI, D. MILANESIO, G. VECCHI, Politecnico di Torino, Italy — A flexible auxiliary Ion Cyclotron Resonance Heating (ICRH) system ($f = 80 - 120$ MHz) has been included in the IGNITOR machine design. ICRH systems have been successfully tested on a number of existing devices especially at high density. Ignition can be accelerated significantly by relatively low levels of ICRH (about 5 MW, a fraction of the final fusion heating) when applied during the current ramp-up. In addition, ICRH provides a useful tool to control the evolution of the current density profile. Four antennas, each composed by 2 straps, 4 tuning stubs, and 2 generators each, can deliver a minimum RF power of about 12 MW for the entire adopted frequency range. The possibility of adding two more antennas has been considered. The antenna design has been based on performance evaluation obtained with the TOPICA simulation suite (Torino Polytechnic Ion Cyclotron Antenna code).

Prefer Oral Session
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