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IGNITOR Remote Handling System* L. GALBIATI, ENEA, Italy, A. CUCCHIARO, A. PIZZUTO, A. BIANCHI, Ansaldo, Italy, B. PARODI, B. COPPI, MIT — The detailed design of the in-vessel Remote Handling System, based on the "two port concept" with two operating booms, has been completed. A 3D mock-up of the plasma chamber (PC) has made it possible to simulate the boom. This validates the ability of the boom, equipped with the attached end-effectors, to reach any in-vessel zone by 180°on each side without interferences. Thus, the operating procedures applicable to several interventions have been established. Furthermore, a failure analysis of the boom components has been carried out in order to identify a recovery proceedure. The design of the ex-vessel cabin with the function of holding the boom apparatus and managing the removal and installation of in-vessel components has been completed. The material removed from the PC is treated as radioactive waste material. The boom is made up by a sliding straight arm and articulated links. A structural analysis of both components under a maximum payload of 25 kg has evaluated an acceptable deflection of about 7 mm.
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