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Testing of Mock-ups for a Full Tungsten Divertor on Globus-M Tokamak

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Current research is the first investigation of cyclic plasma-wall interaction with tungsten elements designed for ITER divertor on Globus-M tokamak. The experiment is focusing on surface morphology, chemical composition and structure of pre-melted (damaged) layers of tungsten after irradiation by electron beam and plasma jet. The irradiated by the electron beam and plasma jet ITER - like tungsten mock-ups, were installed at the outer strike point region of Globus-M lower divertor. Measurements of the SOL heat flux width in ohmic and NBI-heated shots of Globus-M with open divertor magnetic configuration (Ip= 130-220 kA, Bt = 0.4 T, ne=(2-3)⊠1019 m-3, Te= 400 - 700 eV, PNBI ⊠600 kW) are presented. Results of the infrared camera and probes are compared together and with results of simulations by means of the B2SOLPS5.3 code.

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