Abstract Submitted
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**Be-W alloy formation on W targets exposed to Be seeded deuterium plasma in PISCES** M. BALDWIN, R. DOERNER, D. NISHIJIMA, UCSD, K. ERTL, J. ROTH, CH. LINSMEIER, K. SCHMID, A. WILTNER, IPP — In ITER, cross field transport to the Be first wall will lead to an eroded Be impurity flux in the scrape-off plasma flow into the divertor that is expected to be in the concentration range of 1-10%. The W armor plating in the divertor will therefore be subject to both intense plasma and Be impurity ion bombardment. W is known to alloy with Be forming the stable phases $Be_2W$, $Be_{12}W$ and $Be_{22}W$, which have melting points significantly lower than that of pure W. The formation of such alloys could have serious implications for ITER divertor operation. A collaborative effort between UCSD PISCES and IPP has been established to investigate Be-W alloy formation in both static (IPP) and divertor plasma simulator (UCSD) experiments. Results will be presented at the meeting.

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