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Behavior of beryllium atoms eroded from beryllium targets exposed to deuterium plasmas in PISCES-B DAISUKE NISHIJIMA, RUSS DOERNER, MATTHEW BALDWIN, RAY SERAYDARIAN, GEORGE TYNAN, UCSD, JEFF BROOKS, J.P. ALLAIN, M. NIETO, ANL — Understanding the characteristics of beryllium (Be) as both a material and an impurity in plasmas is important for the successful operation of ITER since the current design of ITER has Be as the first wall material. The angular distribution of Be atoms eroded and transported from Be targets exposed to steady-state deuterium plasmas with low incident ion energy, up to 140 eV, has been investigated in the linear divertor simulator PISCES-B. The two-dimensional profile of ground state Be atom density near the target has been derived with spectroscopic methods. A comparison between the measurement and WBC Monte Carlo simulation indicates a deviation from a cosine angular distribution. The angular distribution is found to be insensitive to the incident ion energy between 40 and 140 eV. The angular distribution was measured at two Be surface temperatures (450 and 700 ^{o}C). At the lower surface temperature, the angular distribution seems to be more peaked. Experiments at both lower, down to 50 ^{o}C, and higher surface temperatures are planned.

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