

Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

Hydrogen dynamics under strong plasma-wall coupling¹ A.YU. PIGAROV, S.I. KRASHENINNIKOV, UCSD, A. PLETZER, Tech-X Corp. — The newly developed time-dependent one-dimensional code WALLPSI for wall temperature and erosion rates as well as for trapped, absorbed, and mobile hydrogen inside the wall is discussed. The code is a part of integrated model FACETS for core/edge/wall transport. To study the basic physic process, the code is coupled to the 1D edge plasma transport code. The results of self-consistent plasma/neutral/wall modelling which show strong plasma-wall coupling are presented. Variation of hydrogen inventory in the wall in response to changing plasma impact is discussed. Thermal instability of plasma in contact with hydrogen saturated wall is analyzed.

¹Work supported by research grant DE-FG02-04ER54739 at UCSD.

Alexander Pigarov
UCSD

Date submitted: 25 Jul 2007

Electronic form version 1.4