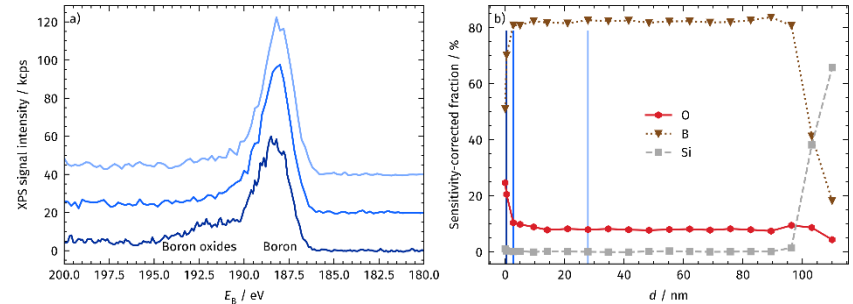




# SP F.1 D004: Characterization of laboratory and "boronization" samples with different techniques (IBA, SEM, XPS..)

- 'Boronization' of polished and annealed W substrates (PSI-2 geometry) in real fusion devices (AUG, WEST -> under TE, W7-X and EAST)
  - Transport in vacuum sample holder and analysis in FZJ
  - Comparison to each other (C/impurities content) and to the laboratory produced layers
- 
- AUG boronization done (15<sup>th</sup> of June)
  - WEST, EAST and W7-X -> Autumn 2026
  - SEM/FIB and IBA standard and often performed on laboratory layers
  - (sputter) XPS: development of procedure of detailed analysis of B-layers ongoing





# SP F.1 D006: Development and fabrication of stable hydrogen-doped boron-coated samples and pre- and post-exposure characterization after plasma treatment in TOMAS and PSI-2 facilities

- ITER-Project: Studies of boron layer fuel removal by isotopic exchange
  - Production and analysis of B:D(H) layers, afterwards exposure of H (D) plasma in TOMAS and PSI-2 and analysis of layers afterward (especially D/B ratio, erosion)
  - In SP-F: further production, exposure and analysis of B(:D) layers, e.g. further plasma exposures at different conditions
- Result from ITER project: strong flux dependency!
- NEW at TOMAS: more flexible sample holder -> increase of flux?
- PSI-2: different energies

