Lifetime of mirrors for ITER diagnostics

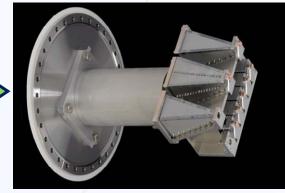


Reflectivity of ITER mirrors will degrade due to impurity deposition

How to get rid of contamination of diagnostic mirrors in in ITER?

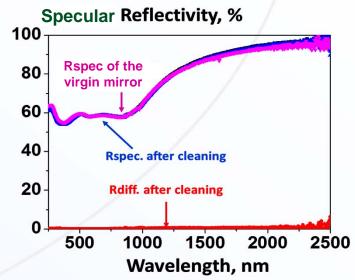
Shape of diagnostic duct and fins in the duct may suppress the deposition

Mirror Station for TEXTOR



- Mirror Station: system of ducts with mirrors at their end;
- Manufactured to study suppression of deposition;
- Exposed in TEXTOR for four months;
- Ducts with fins no positive effect;
- Cone-shaped ducts: no deposition;
- Mirror Stations in DIII-D and in ASDEX Upgrade: analyses ongoing.

Cleaning of the mirrors using sputtering plasma



- Single crystal molybdenum mirror;
- Pre-coated with 100 nm aluminum to simulate beryllium deposition;
- Cleaned in electron-cyclotron helium plasma for nine hours;
- Specular reflectivity fully recovered.

A. Litnovsky et al., Summary slide FIP/P4-6 at the IAEA FEC 2014, Saint Petersburg, Russia, October 2014.