# TU Wien: Experiments

## Precise sputtering experiments at TU WIEN

- → **Preparation** of thin QCM films and bulk samples of (a few) well defined materials: e.g. Fe, fusion grade W and EUROFER (twin samples for investigations in UU and TUW)
- → **Characterization** of all targets by IBA in UU and XPS in TUW
- → **Inspection** of all used samples by AFM at TUW, check for suitable smoothness and use AFM images as simulation inputs (i.e.: SDTrimSP-3D)
- → **Determination** of total sputtering yields for QCM film targets by TUW
- → **Measure** & compare angular distr. of sputtered atoms for both film and bulk targets with catcher-QCM in TUW

## Preparations to integrate a Vienna QCM into the setup at Uppsala University

- → **Provide** current CAD models of the QCM holder to UU for integration into their target holder
- → **Provide** virgin QCM quartzes for coating (see above)
- → **Construction** of dedicated HF-Electronics at TUW (to be installed at UU during the ENR project)

# TU Wien: Simulations

## SDTrimSP simulations at TUW

→ **Develop** a GUI for SDTrimSP for easy input

→ **Changes** to the SDTrimSP code to allow an easy switching between different interaction potentials and a variation of electronic stopping power input

→ **Simulations** with SDTrimSP for all used materials to determine sputtering yields and angular distributions of sputtered particles & backscattered projectiles

→ **Check,** whether samples are sufficiently flat to be treated by SDTrimSP-1D by comparing results to SDTrimSP-3D simulations based on AFM images

→ **Investigate** how sensitive the simulations are on a variation of the used interaction potential

→ **Investigate** how sensitive the simulations are on a variation of the used electronic stopping values