



Surface analysis on particle accelerator components

Project code	66
Supervisor	Mauro Taborelli
Department	TE
Title	
Surface analysis on particle accelerator components	
Description	
<p>The Surface Coatings and Chemistry section (SCC) of the Vacuum, Surfaces and Coatings (TE-VSC) group is taking care of the surface and chemical analyses, thin film coatings by PVD and surface finishing as a CERN-wide support in development and operation of accelerators. The task will be to support the surface analysis activity for quality control and R+D projects. It includes applying measurements of X-ray Photoemission Spectroscopy, Secondary electron yield , UV Photoemission as diagnostic tools for the thin films prepared at CERN for getter pumping of vacuum chambers, superconducting coating and suppression of electron cloud effects. Participate in the R+D activity of the SCC section and VSC group. Develop and improve suitable instrumentation for secondary electron yield measurements.</p>	
Functions and Training Value	
<p>Learn how to use and apply surface science techniques to problems encountered in vacuum systems of particle accelerators and functional thin films. Apply the techniques for quality control and diagnostics and as a driver for developments. Interact with CERN users asking for analysis and deliver the suitable reports.</p>	
Qualifications/Skills	
Material scientist or physicist with MSc or PhD	