

## **Space Charge Effects Studies for the ESS Cold Linac Beam Profiler**

*Tuesday, 18 September 2018 16:00 (30 minutes)*

Five Ionization Profile Monitors are being built by CEA in the framework of the in-kind contribution agreement signed with ESS. The IPMs will be installed in the Cold Linac where the proton energy range they need to cover extends from 90 MeV to 2 GeV. trajectories of the ionized molecules and electrons created by the passage of the beam through the residual gas. In order to quantify and to develop a correction algorithm for these space charge effects, a code was initiated at ESS and completed at CEA Saclay with the possibility to include real case electric fields calculated with Comsol Multiphysics. A general overview of the code and its preliminary results are presented here.

**Presenter:** Dr BELLONI, Francesca (CEA Saclay)

**Session Classification:** Simulation codes