Radiation Protection for ELENA

Joachim Vollaire on behalf of DGS-RP
What do we do?

- **Design and installation phase**
  - Perform radiological risk analysis
  - Support project for integration of RP requirements in design and installation phase

- **Commissioning and Operation phase**
  - Risk assessment at work places and radiological classification
  - Monitor radiation levels with permanent monitoring system (RAMSES/ARCON)
  - Ensure compliance with RP requirements

- **End of project**
  - Supervise decommissioning and dismantling
  - Radioactive Waste characterization and elimination
RP studies during design

- Identification ionizing radiation sources (input from BE)
  - Beam parameters
  - Conservative estimate of beam losses
  - Assessment for normal operation and accidental beam losses
  - Other sources of radiation (X-ray from cavities, e⁻ cooler…)

- Definition of mitigation measures
  - Shielding design (use of state of the art Monte-Code for complex situations)
  - Implementation of active monitoring system
Current situation in the AD Hall

- AD Hall is a Simple Controlled Area (except the visitor platform which is a Supervised Radiation Area)
- Detailed radiation measurement campaign in 2010
  - Shielding improvement was recommended at some specific locations to allow the possible classification of the AD Hall as a Supervised Radiation Area
  - Relocation of counting rooms for ASACUSA and ALPHA outside the AD Hall planned
  - Design objectives for ELENA should be compatible with classification of the hall as a Supervised Radiation Area
- Radiation limits (permanent - non-permanent workplace)
  - Supervised Radiation Area (3 μSv/h – 15 μSv/h)
  - Simple Controlled Radiation Area (10 μSv/h – 50 μSv/h)
Example of results from the AD Hall survey

Results for low occupancy working places (edms 1110025)
Permanent monitors in the AD Hall
THANK YOU FOR YOUR ATTENTION