

MOLLER Task List Update

Simulation : Target

- O-ring radiation load
 - Student working on this and O-ring radiation load should be ready soon
- Optimize the target shielding : Concrete/Lead/Poly
 - Student working on this and goal is to have complete shielding optimization by end of year
- Goal is to have a design where engineers can assess.

Simulation : Detector Shielding Optimization

Collimation and shielding group needs to collaborate with the detector group. A optimized version of MOLLER apparatus shielding ready by end of the year.

- **Priority 1**
 - Optimize the MOLLER apparatus shielding
 - Add beam dump and a downstream beam pipe
 - Estimate background at z locations and radii where detector are located
- **Priority 2 or 1.1**
 - Start designing detector shielding for minimizing backgrounds and radiation damage.

Simulation : Spectrometer Radiation Load

- Hybrid toroidal nose radiation load
 - Initial numbers provided to MIT engineers but this needs to be updated.

Simulation : Activation Studies

- **Priority 1**
 - Setup the FLUKA simulation -> Implement the MOLLER geometry
- **Priority 2**
 - Start estimating activations for various components.
 - Need to have a priority list
- Goal is to have FLUKA simulation up and running by end of year