

220 m roman pot project

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Contents:

- Aim: present the objectives and the activities going on, just a list of tasks for now
- A more complete report at the next FP420 meeting

Roman pots stations

- **Location:** Probably at 220 m, which makes it easier to include in the L1 trigger, in the ATLAS collaboration
- **Pot acceptance and simulation:** being performed by the Prague group using MAD, can be cross checked with results of FP420 group. **Part of the ATLAS luminosity group**
- **Roman pot technology:** As close as possible from the TOTEM or pots from the luminosity group, the difference being that we need an horizontal arm to be sensitive on diffractive events
- **Background rate:** Computed in collaboration with the machine group

Detectors, readout and triggers

- **Pixel detectors:** Being studied and built for the ILC in Saclay/Strasbourg, use the same technology for the detectors in roman pots. Resolution of the order of $1\ \mu\text{m}$, leading to low occupancy and allowing to get rejection at the roman pot station level for halo, developed in Saclay
- **Trigger:** In collaboration with Andrew Brandt, use of Cerenkov detectors
- **Readout:** being developed in Saclay, probably readout at each BC, and sent only the triggered events to ATLAS
- **Electronics:** Prague-Saclay collaboration
- **Timescale:** Difficult to estimate at this stage, the idea being to get a prototype detector (pixel+electronics) in one year from now for tests

People involved

NB: not final, starting point...

- **SACLAY:** Maarten Boonekamp, Laurent Schoeffel, Christophe Royon, Oldrich Kepka (PhD student), Pierre Lutz (pixel detectors), Patrick le Du (trigger experts), and probably 4 ingeneers
- **PRAGUE:** Milos Lokajicek, Alexander Kupco, Marek Tasevsky, Vojtech Juranek (PhD student), and ingeneers (experts on readout and triggers)
- **STONY BROOK:** Michael Rijssenbeek