MINERvA Update

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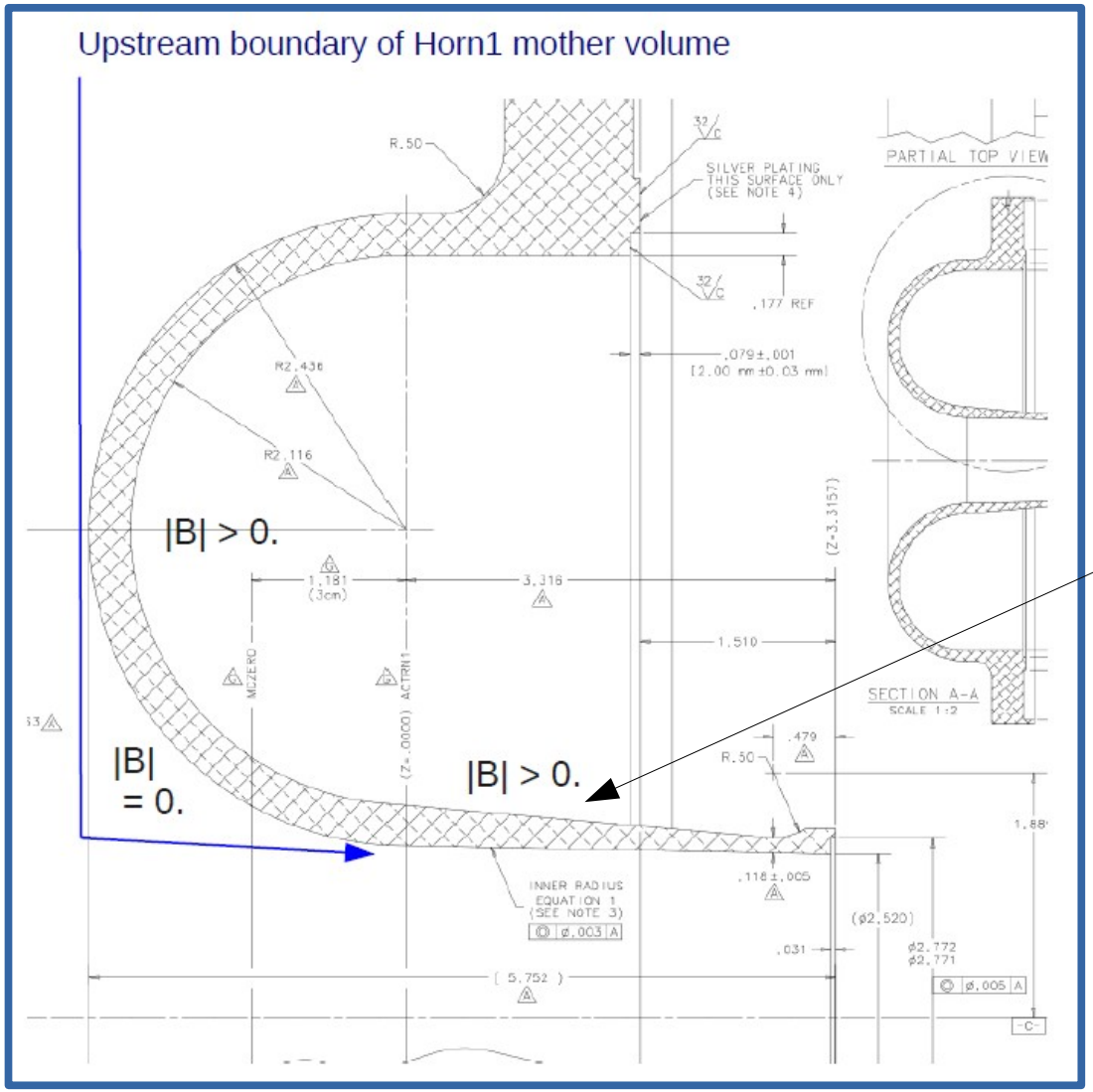
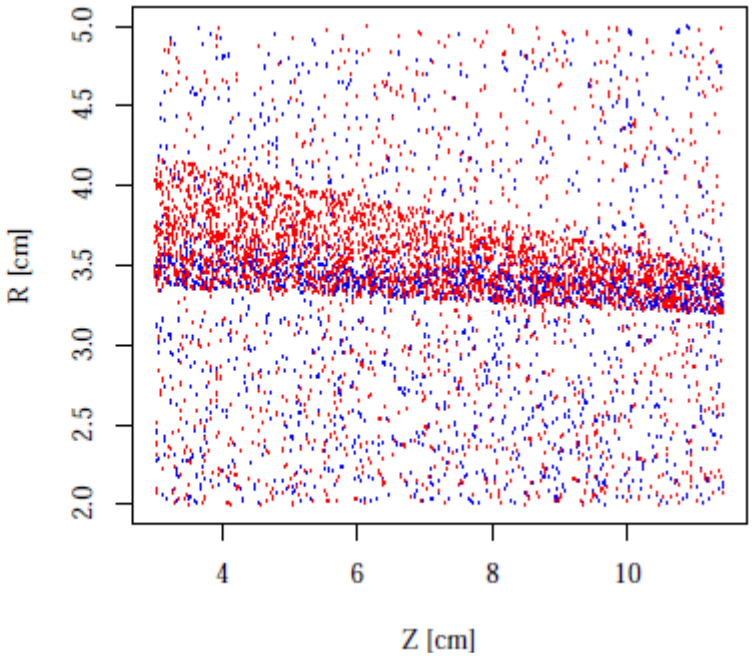
NuMI-X meeting
Feb 13, 2015

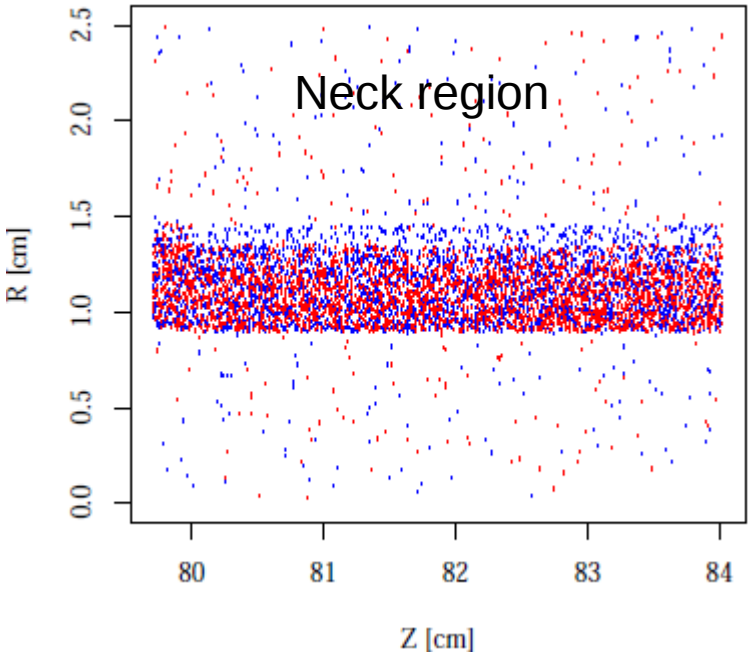
Lines of effort

- PPFX: Package to Predict the Flux (Leo Aliaga)
  - Experiment independent NuMI reweighting package
  - MIPP, NA49 constraints.
  - Attenuation corrections.
  - “Many universes” uncertainty propagation
  - Under development. Being interfaced into MINERvA framework.
- Beamline geometry updates (Paul Lebrun)
  - Horn geometry
- pC → neutrons from NA49 (Ben Messerly)
- pC ↔ pA (Tomasz Golan)
- Water layer uncertainty propagation (Joseph Kiveni)



Blue= old
Red = new



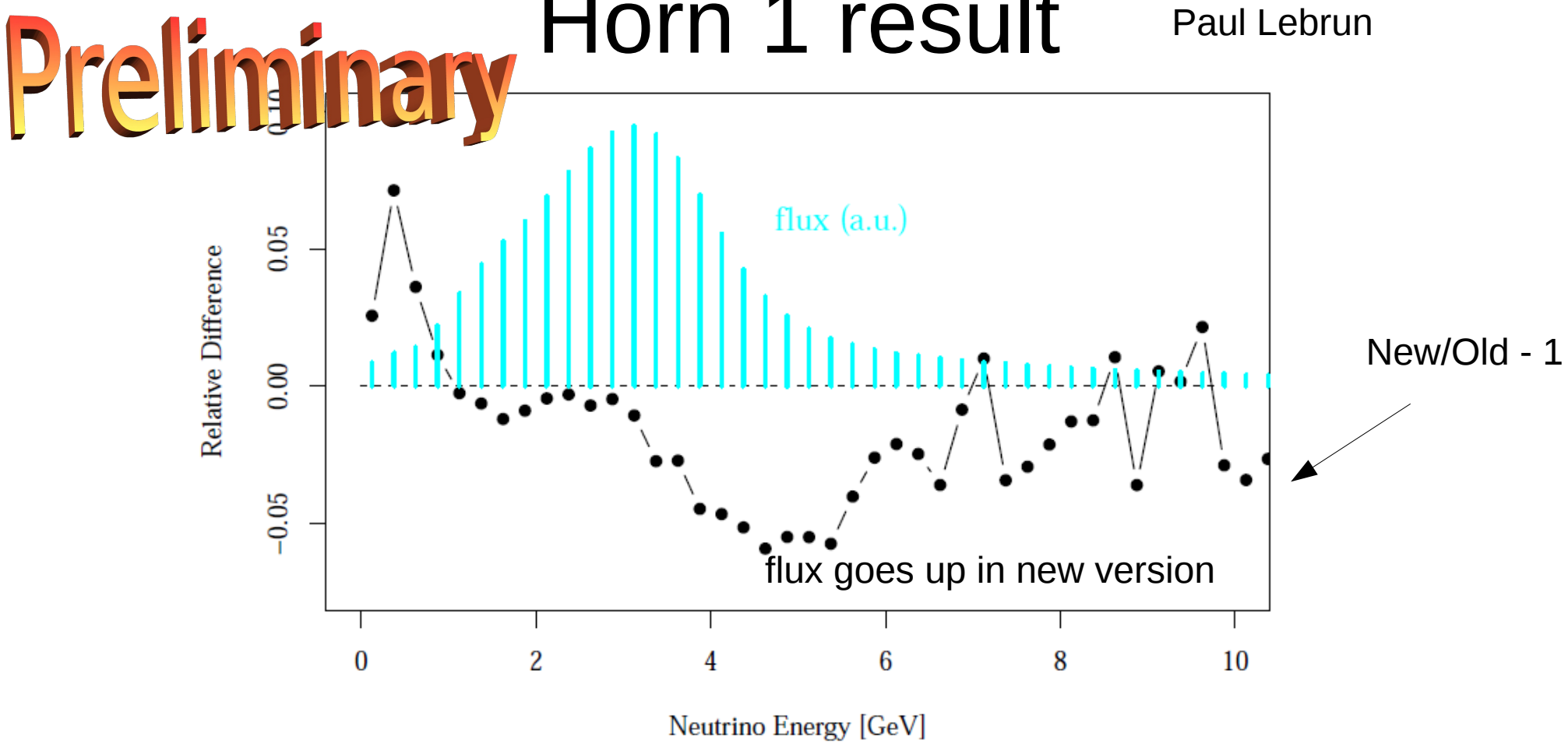


Horn 1 Geometry

Paul Lebrun

Horn 1 result

Paul Lebrun



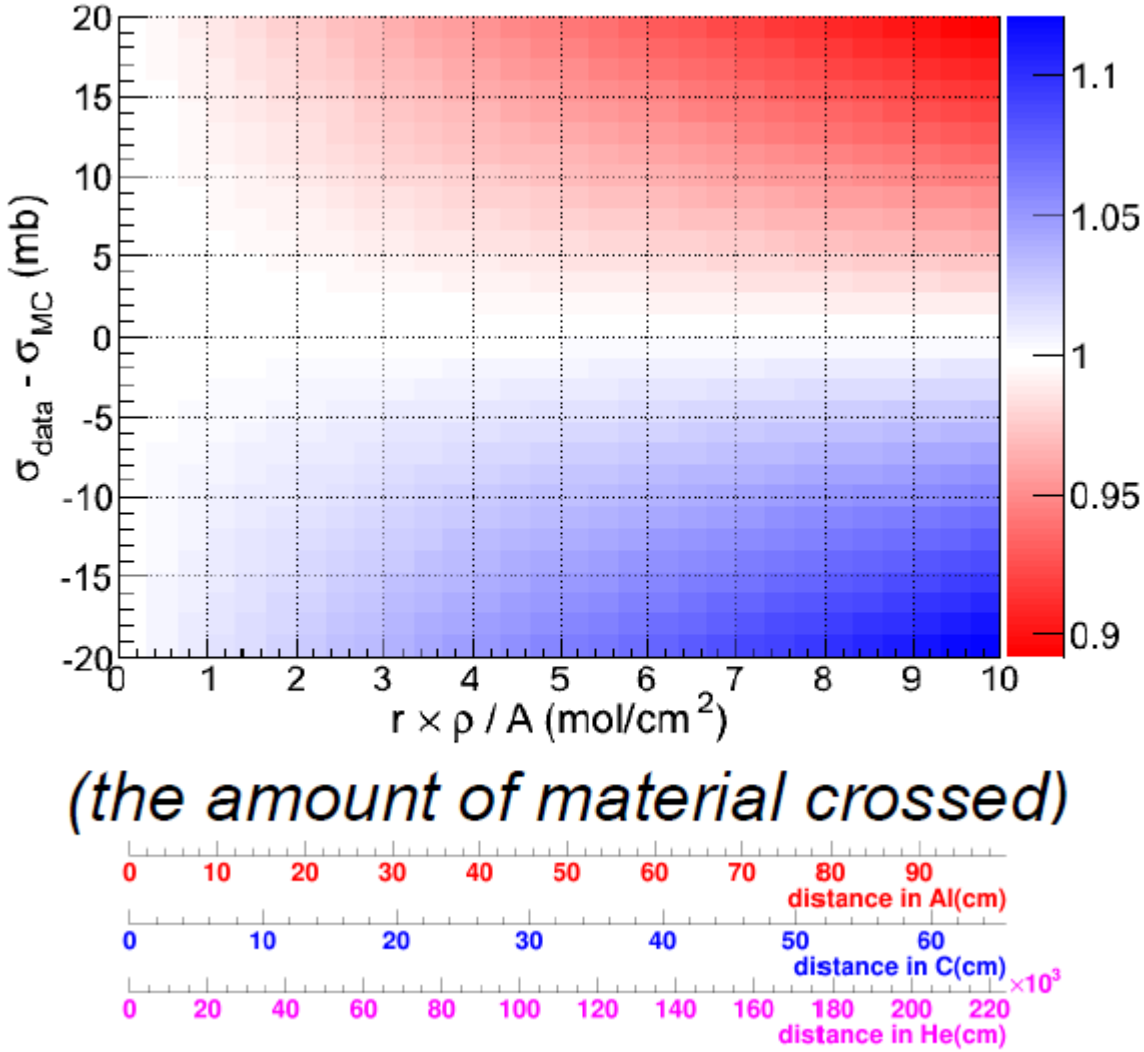
Other Improvements

- Segmentation of the horn into polycones
- Welds
- Spider supports

Absorption

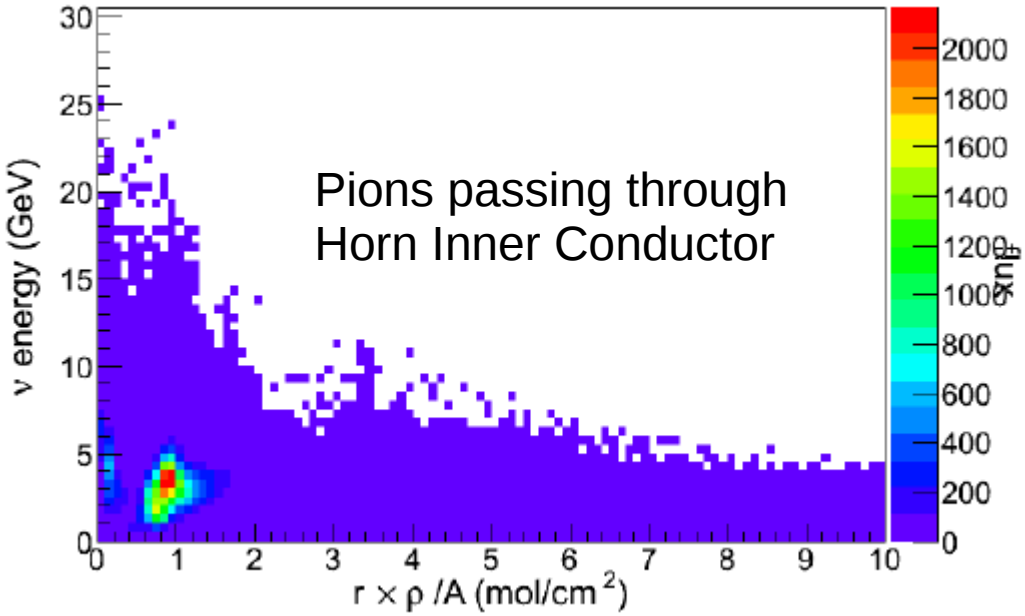
Leo Aliaga

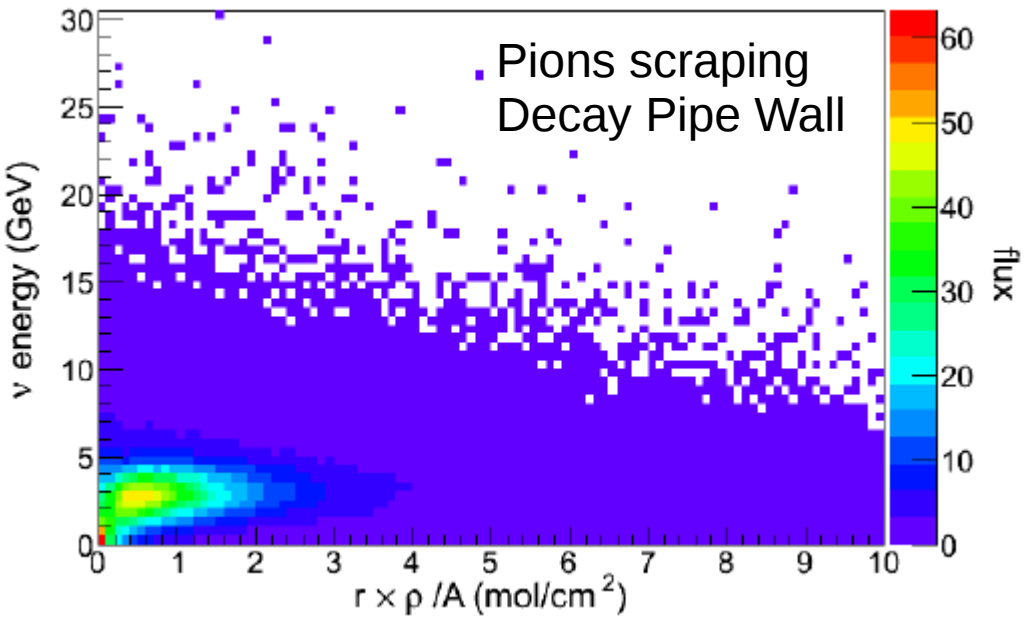
difference
in inelastic
cross-section



Absorption
correction

Material Crossed





* Inelastic cross-section uncertainty ~ 23/230 mb ~ 7%
* Few % effect expected

That's all for now