Update on DCH Background studies using FullSim

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Productions

- New productions, packaged release BrunoApp

  - **Official-London**, RadBhabha (~3k evts, 11us, low stat): BrunoApp V0.0.0, 1mm step limit

    - Issue: old version of BrnHit (w/o information on vector momentum or final step point), not able to process those files using my macro

  - **Official-London**, Touschek/BeamGas: same as previous one, same issue, additional technical problem with normalization

  - **Personal**, 2photons (1.9M evts, 250us): BrunoApp V0.0.1, no step limit, single Coulomb scattering, improved BrnHit

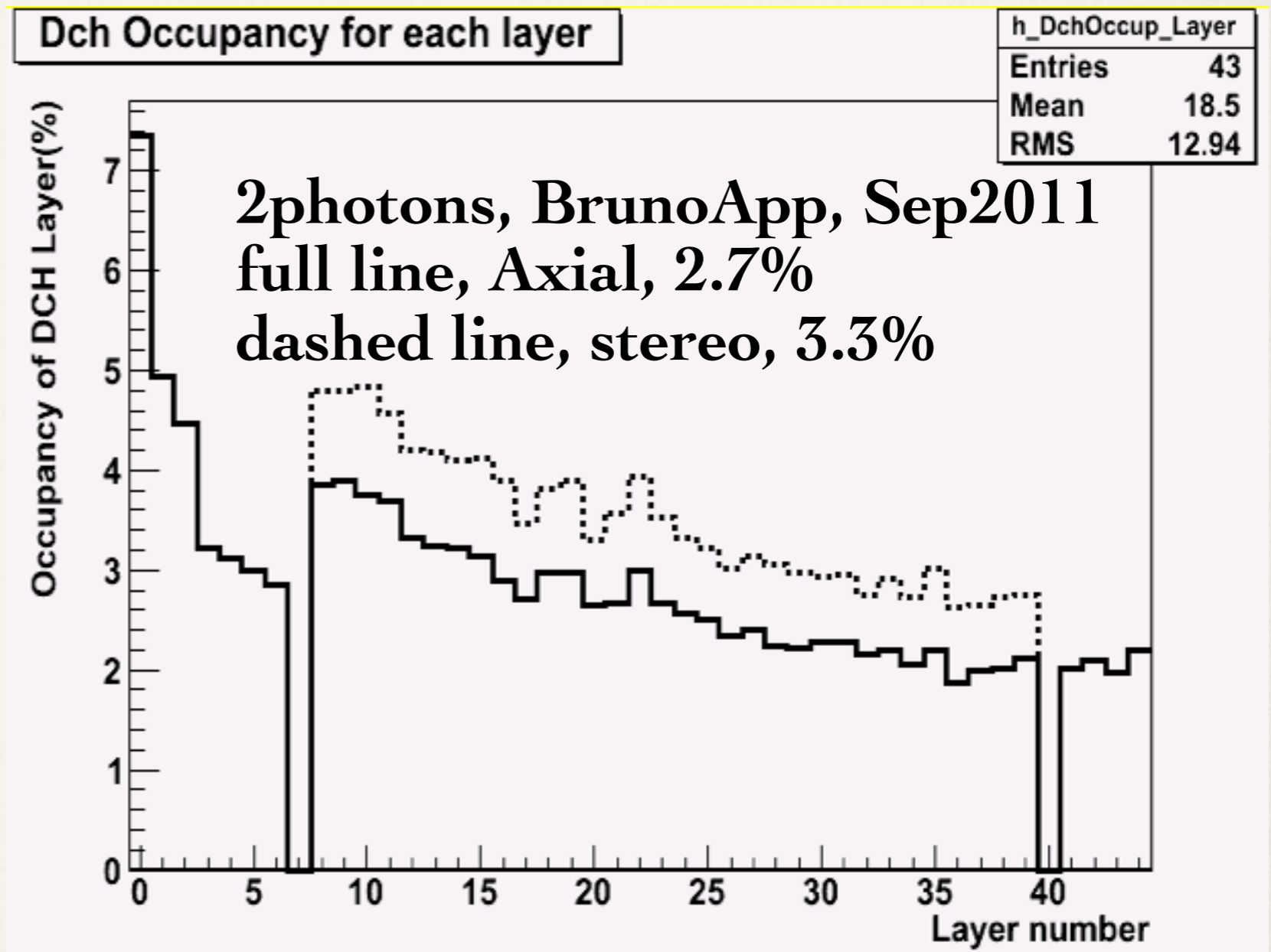- Following plot only from personal production

Dch rate (preliminary)

- Validation of packaged release, similar rate

- It looks higher than what we were observing, is now an important contribution?
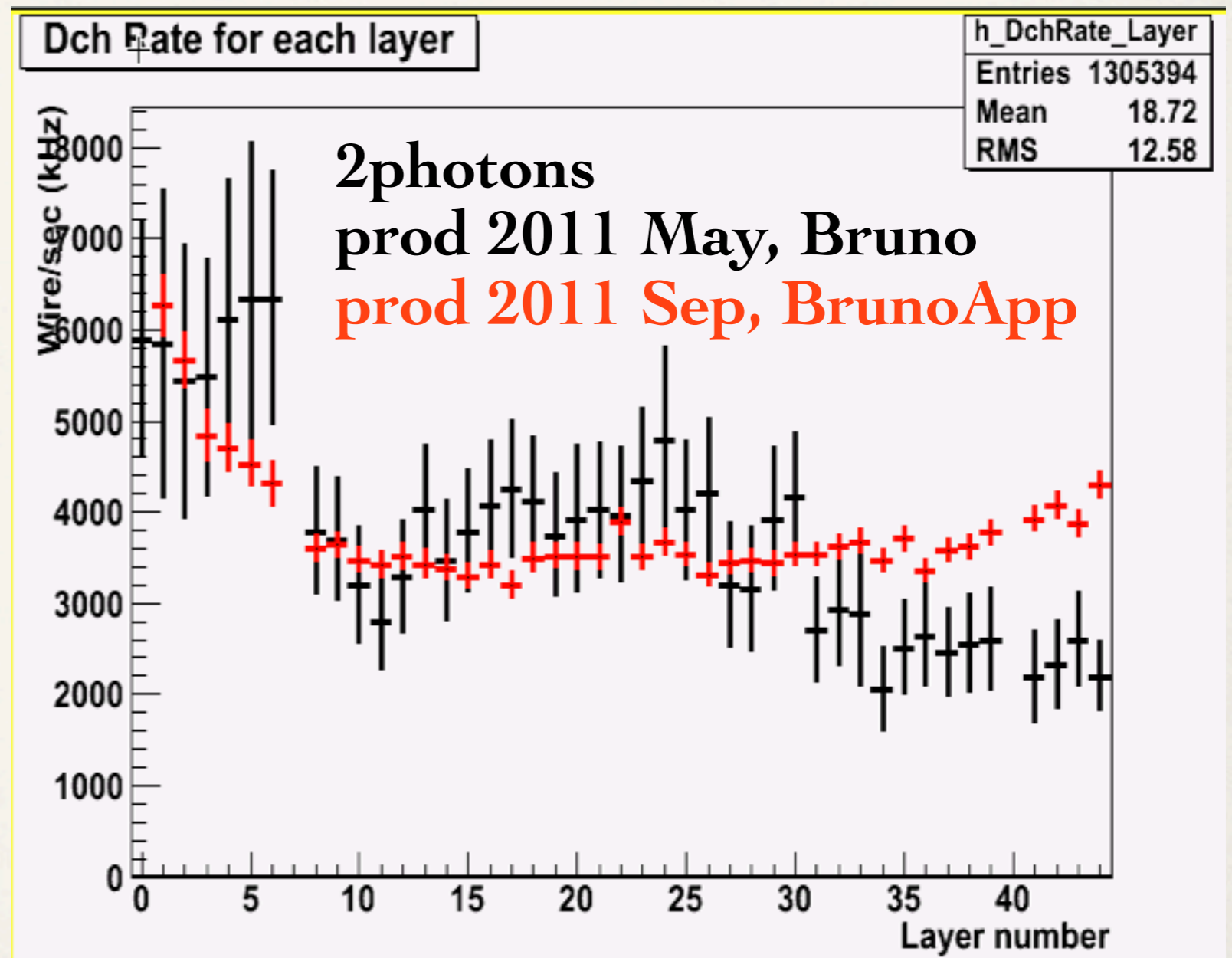
Dch Occupancy (preliminary)

- Stereo contribution is still evident

- Occupancy not so small, to be added to RadBhabha one (bugs in simulation were fixed during the summer)

Dch Occupancy for each layer

h_DchOccup_Layer	
Entries	43
Mean	18.5
RMS	12.94

2photons, BrunoApp, Sep2011
full line, Axial, 2.7%
dashed line, stereo, 3.3%

Occupancy of DCH Layer(%)

Layer number

Map for cell rate

- Still 2photons
- Fill the map with rate for each cell
- 250us
- A cell fired once during 250us = 4kHz
- Higher statistics needed to spot which ones are the hot areas, it looks still isotropic
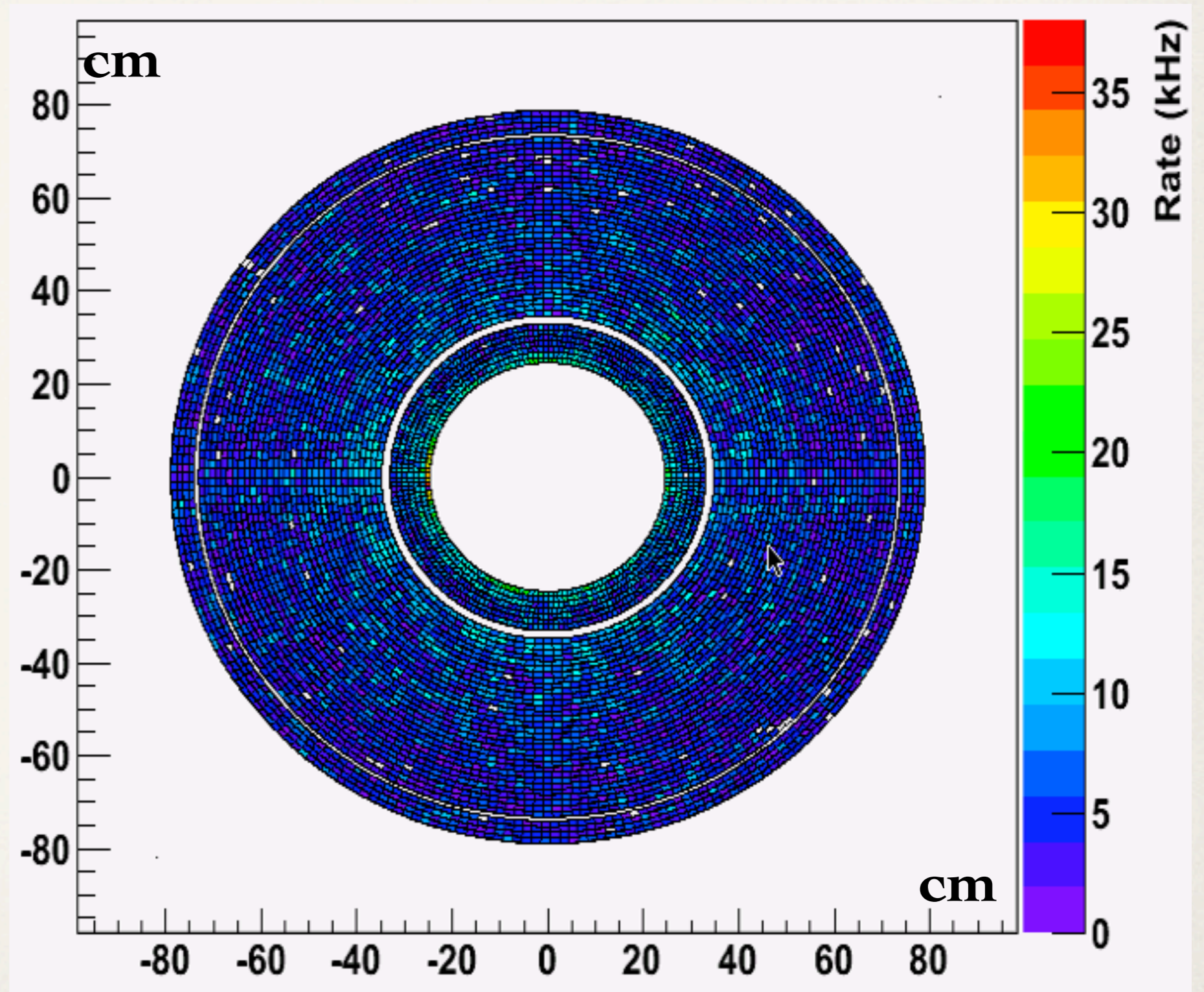
New map for cell rate (stereo)

- Stereo configuration

- For stereo layers also neighbor cells are fired, as expected

- Higher rate due to overlapping
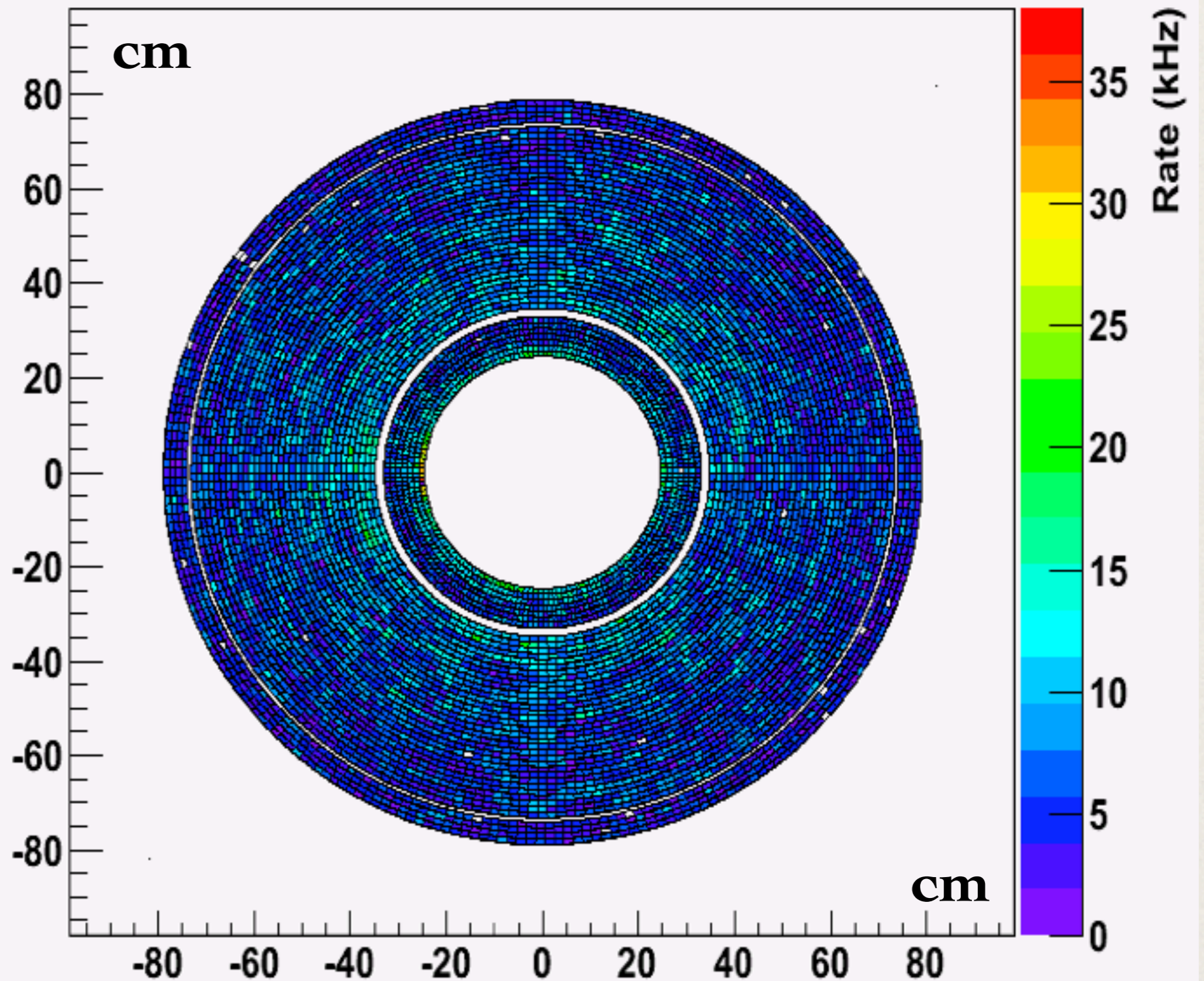
Conclusions

- Validation of new packaged release, still in progress

- Various technical problems to be addressed to process RadBhabha and Touschek (need to run production with improvement of last Bruno version)

- Can 2photon bkg become significant after simulation improvement?