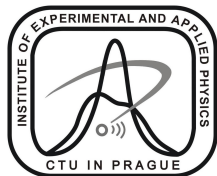


Timepix3/4 detectors in astroparticle physics

Jindrich Jelinek

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**UNIVERSITÉ
DE GENÈVE**

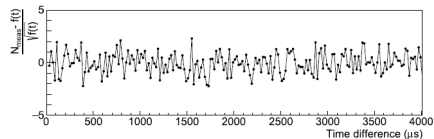
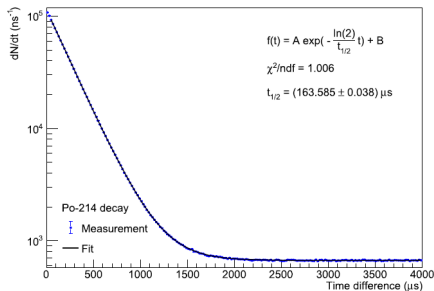
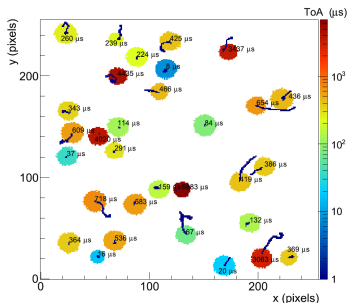
About me

- At high school, I took part in many physics and astronomy competitions
- I was several times at International Physics Olympiad and at International Olympiad on Astronomy and Astrophysics
- I studied Natural Sciences at University of Cambridge
- I did summer internships at IEAP in Benedikt Bergmann's group
- I am currently a PhD student at University of Geneva and at IEAP CTU
- I am helping with organization of high school physics and astronomy competitions



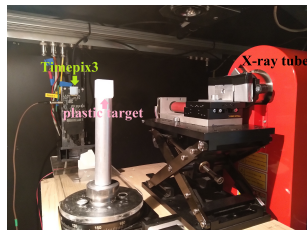
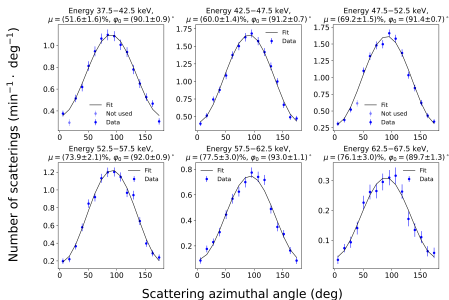
Po-214, Po-212, and Pb-212 half-life time

- Work done during my summer internship
- State-of-the-art precision of the half-life measurement – my first publication



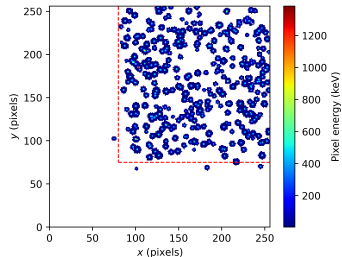
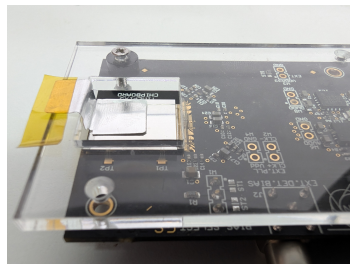
X-ray polarimetry with Timepix3

- X-ray radiation, like visible light, can be polarized
- Potential application in astrophysics in black holes, neutron stars, or gamma-ray bursts observations



Lunar radiation field measurements

- Renewed interest in the exploration of Moon (Artemis, Chinese Lunar Exploration Program, ...)
- European Space Agency call for lunar missions
- Our proposed missions:
 - LunPAN – lunar orbiter with multiple particle detectors to measure the radiation spectrum
 - Neutron HardPix – searching for water in lunar soil using Timepix3 detectors with neutron converters



Thank you for your attention