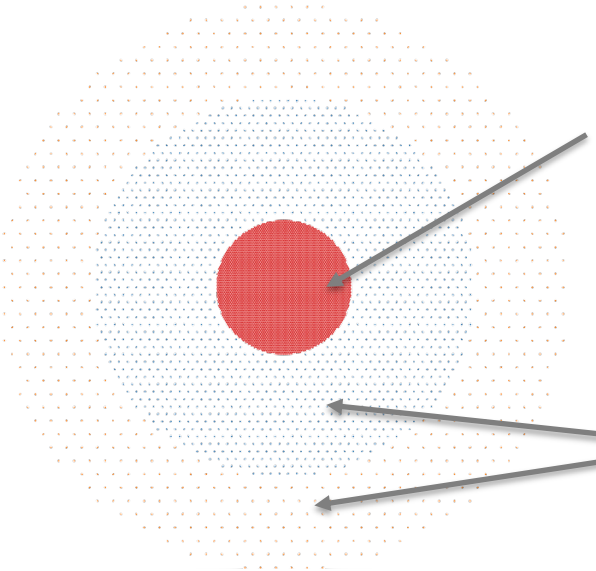
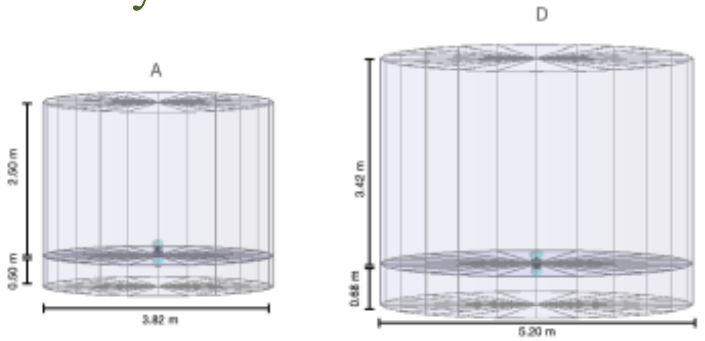
Southern Wide-field Gamma-ray Observatory

2024, the year of decisions: Layout, Detectors, Site

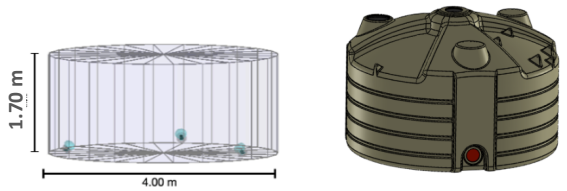
Last week: México: - first consensus towards Layout and detectors



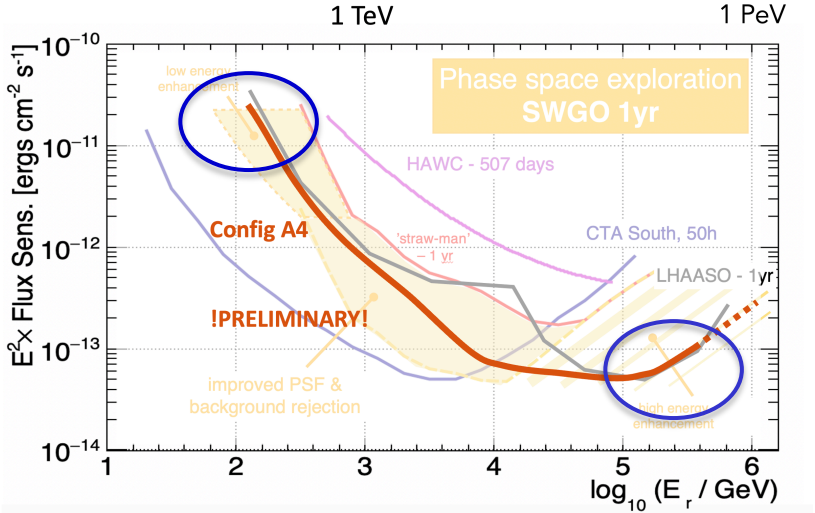
Double Layer (dimensions to be optimized)



Still open but Mercedes a serious candidate



Sensitivity curve



LIP@Lower energies

- Trigger
- pattern recognition
- Deep core

LIP@Higher energies

- LCm
- Ptail

Portugal,
Brasil,
Italy,
Rep. Checa,
…

Mário Pimenta
April 2024

SWOT Analysis

Strengths

Expertise and sound activity in cosmic-ray research, detector R&D, data analysis, simulation, air shower physics and phenomenology. Close links with Brazilian, Czech, Italian and Spanish groups.

Weakness

Even if the group has been steadily growing, it is still below the desired mark, namely: on its capacity to increase its contribution on general reconstruction tasks; to develop more phenomenological activities for which the group is well qualied.
The funding is, for the moment, only guaranteed until mid-2024.

Opportunities

Extended energy range (100 GeV - 10s PeV). Rich science program including multi-messenger, Pevatron and fundamental physics. The only wide-eld gamma-ray observatory surveying the Southern sky. Large opportunities various dierent engineering and physics domains from the design, construction, operation and data analysis.

Threats

It is an ambitious project that will imply at medium and long term reasonable nancial and human resources.