Surface Observatory

2023.12~
Location: 29.26°N, 47.90°E
Altitude: 0.075 km
~2023.8
Location: 29.37°N, 47.98°E
Altitude: 0.019 km
Effective Geomagnetic Cutoff Rigidity: 13.0 GV
Standard Pressure: 1010 hPa
Detector Type: Proportional Counter (hodoscope)
Telescope Size: 9 m² (03/2006 – 03/2015)
21.5 m² (04/2015 – 03/2016)
25 m² (03/2016 –)

Operation Period: 2006 –

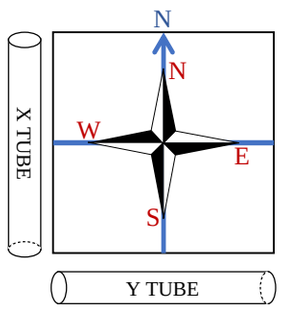
- 03/2006: The North direction of the detector was inclined 32.8° counter-clockwise from the real North direction
- 03/2006: New recording system using FPGA was introduced
- 29/03/2015: 30x30 tubes were changed to 43x50 tubes
- 16/03/2016: 43x50 tubes were changed to 50x50 tubes
- 19/12/2023: move to K.U. new campus and aligned parallel to the Geographic direction

Pictures:

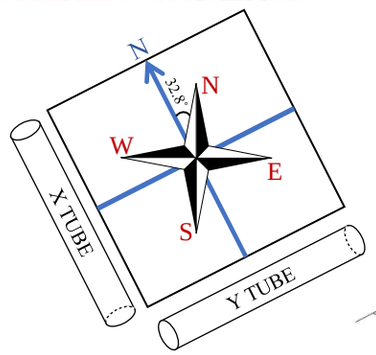
Kuwait – KWT

Kuwait University – Department of Physics

Relation between
DETECTOR and GEOGRAPHIC Coordinates

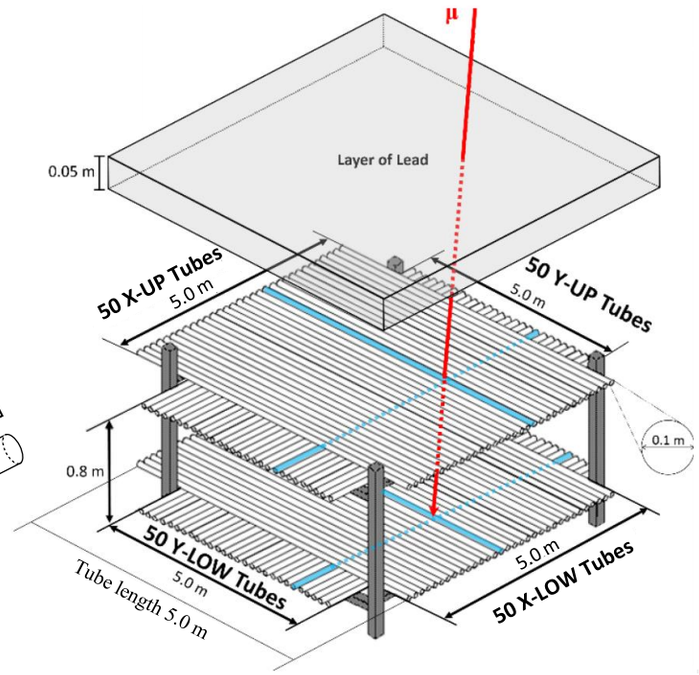


2023.12 -



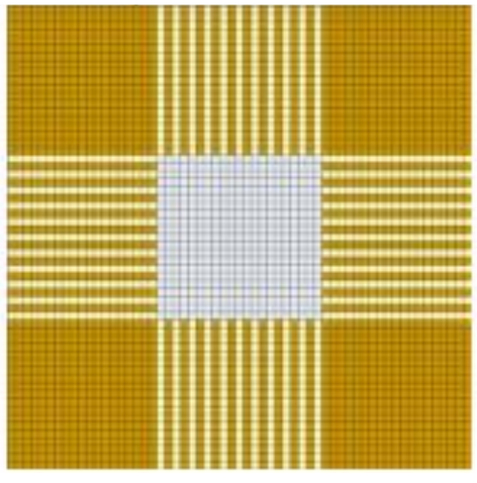
- 2023.8

Top view

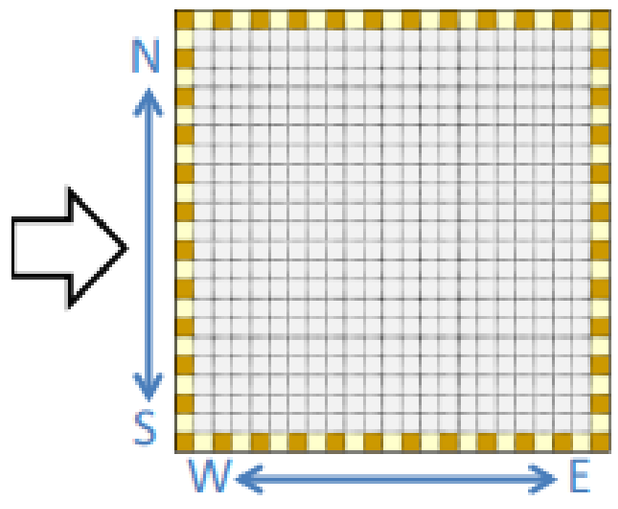


The 99x99 = 9801 possible combinations (50x50 pairs of upper counters + 50x50 pairs of lower counters) are converted in 23x23 = 529 directions.

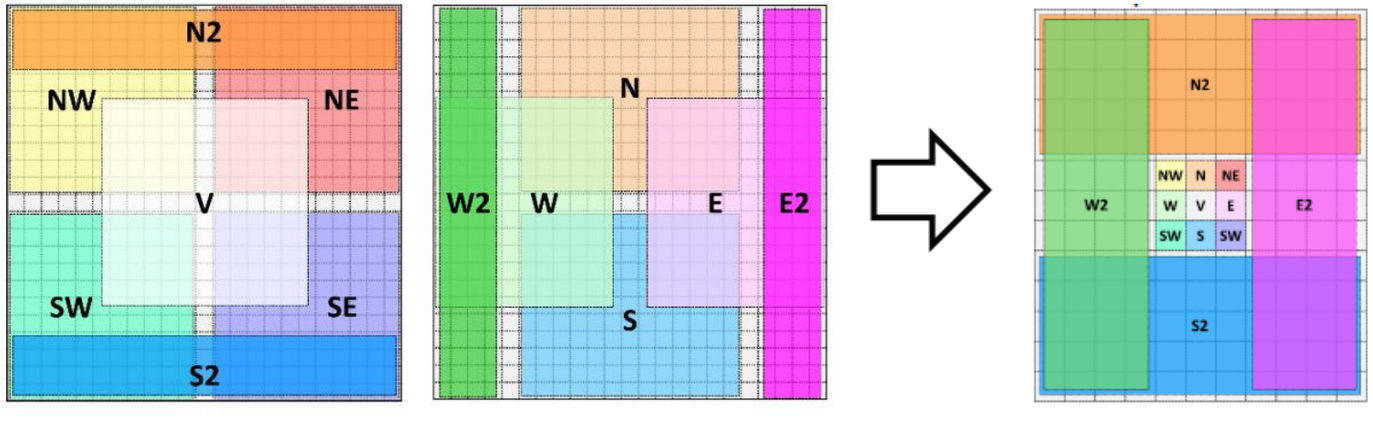
99 X 99 possible combinations



23 x 23 recorded directions



23 x 23 recorded directions used to form the conventional system



Conventional Correlation System: 13 directions (Each block correspond to 7x7 tubes combination)