



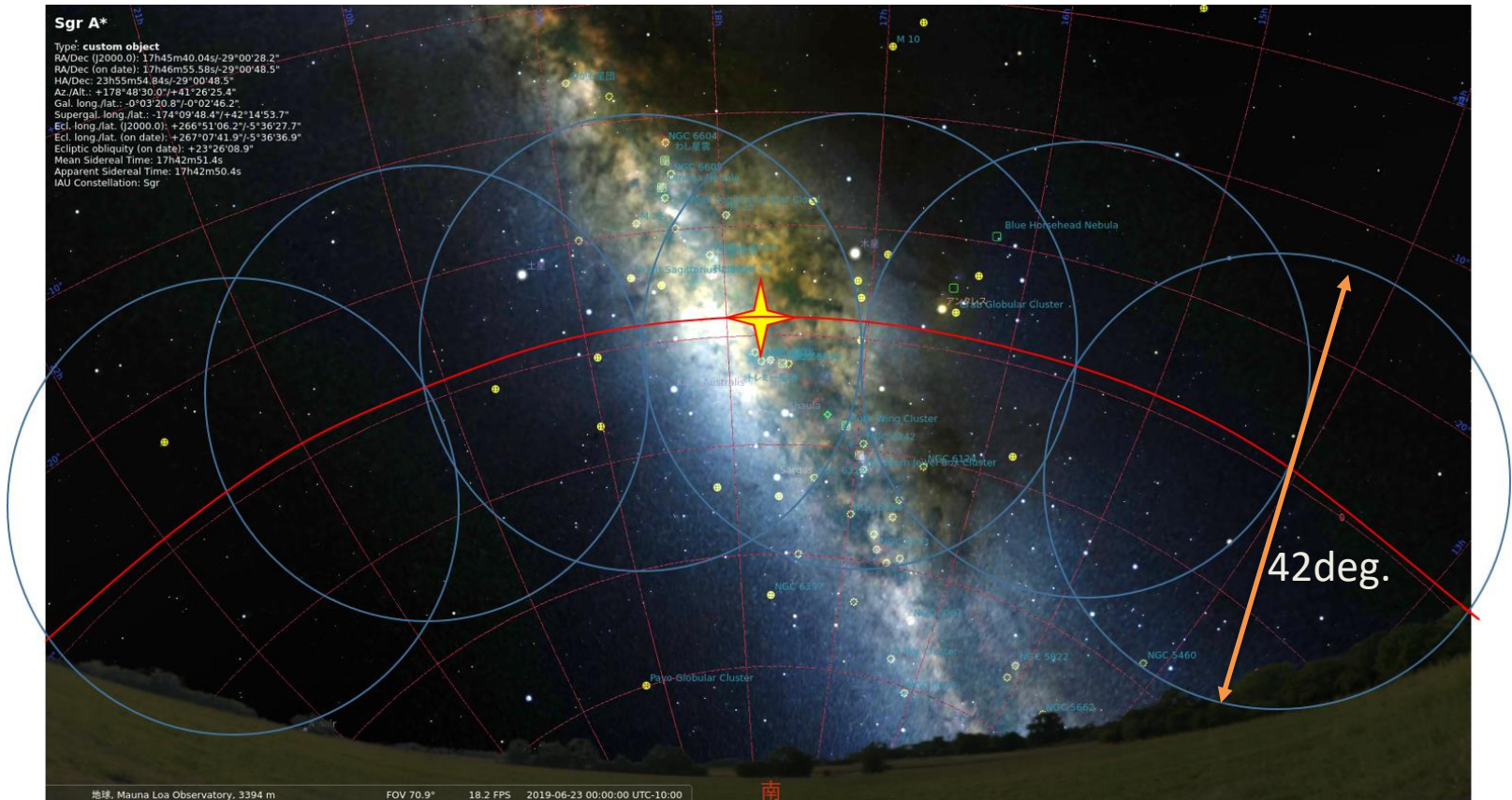
Galactic Bulge VHE tau-neutrino and gamma-ray Monitor with Ashra-1 and NTA detectors

ICRC2021

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Ashra @ Mauna Loa

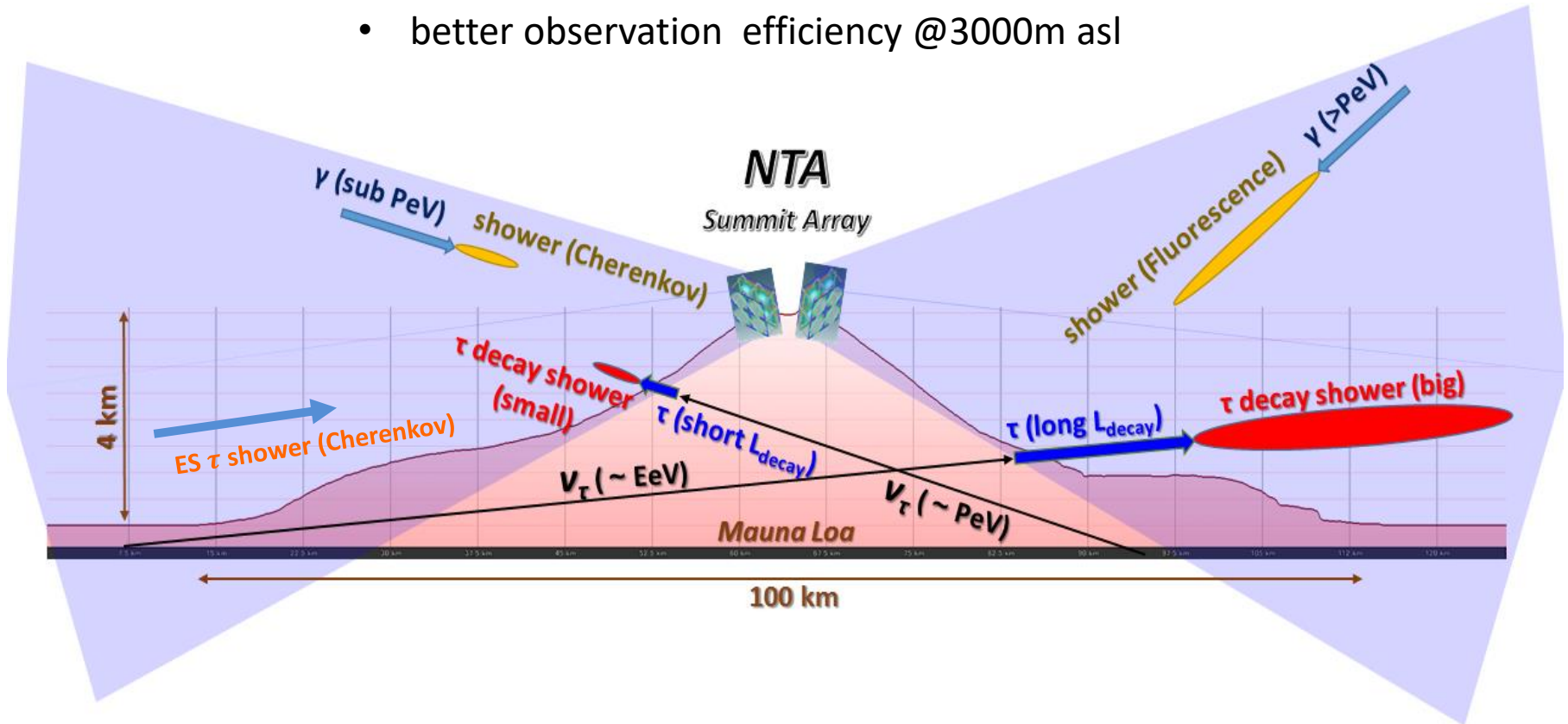
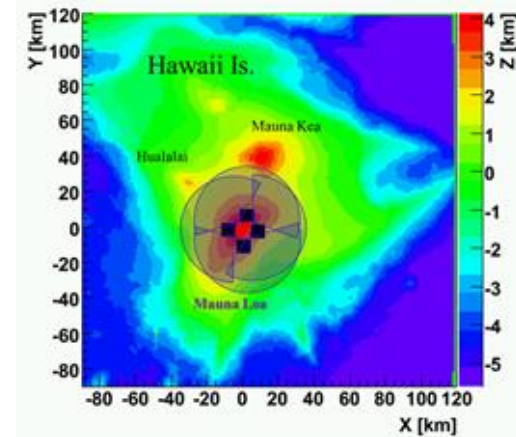
Layout of Ashra-1 FOVs using existing and rearranged detectors



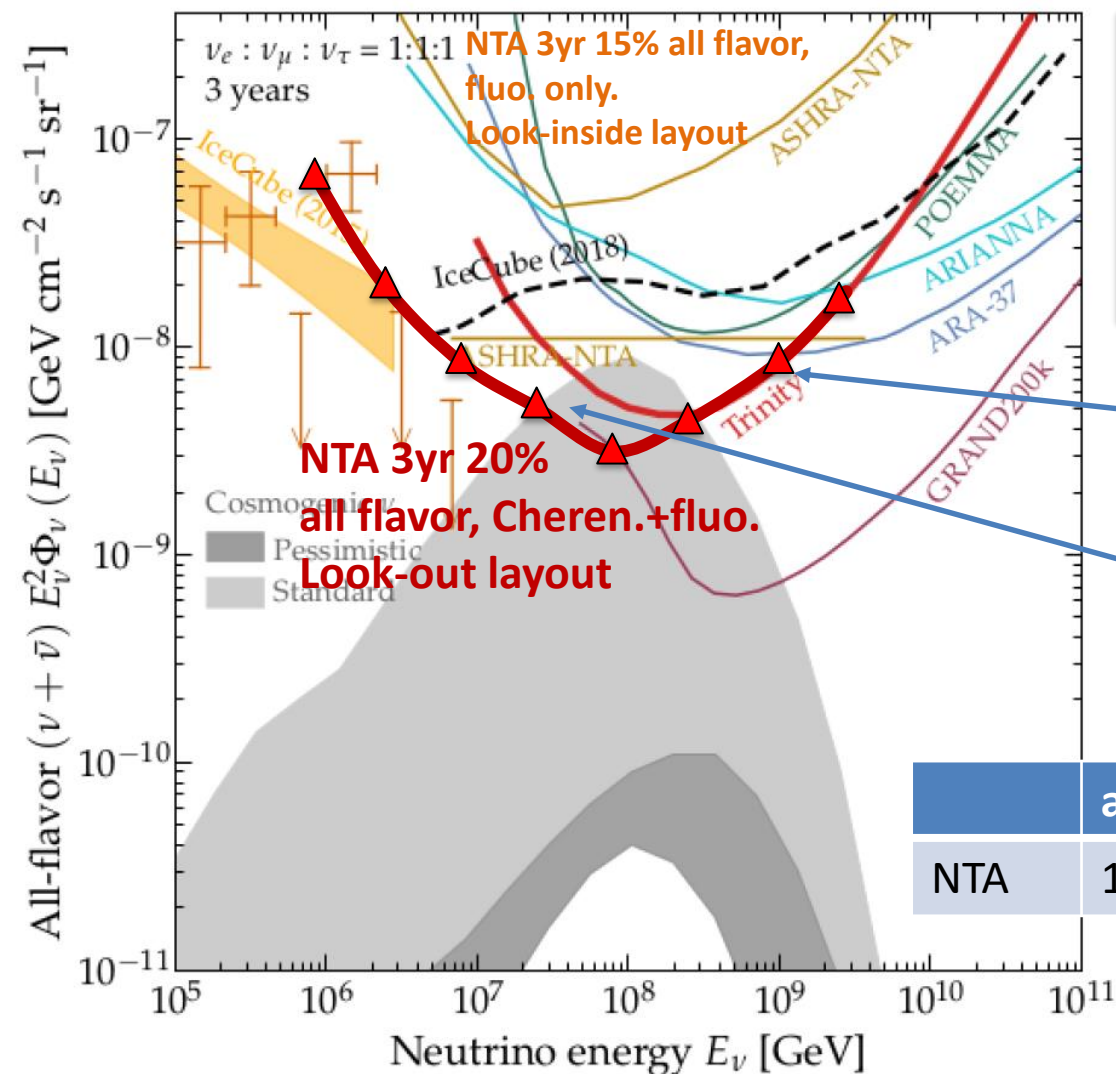
Simulated southern sky at the Ashra-1 Mauna Loa site at 0:00 on June 23, 2021. The star mark indicates the location of the galactic center (GC). The track of GC (arc) and the FOV of the rearranged Ashra-1 light collectors (circles) are also shown.

NTA summit array detection of ν / γ -ray / CR

- τ decay length: $L_\tau \sim 50\text{m} (E_\tau/\text{PeV})$
 \Rightarrow can watch nearer $1 \sim 10\text{PeV}$ AS max
- lower detection E threshold
- better observation efficiency @3000m asl



NTA diffuse ν sensitivity: with Cherenkov & fluorescence light



NTA most sensitive for 1PeV-100PeV ν

Clear test:
IceCube PeV ν extension
Cosmogenic ν

Far ES tau neutrino Cherenkov observation

Near ES tau neutrino fluorescence observation

Thanks to look-out layout

	aper.	height	Fov	Resol.
NTA	10 m ²	3 km	360° x 30°	0.125°