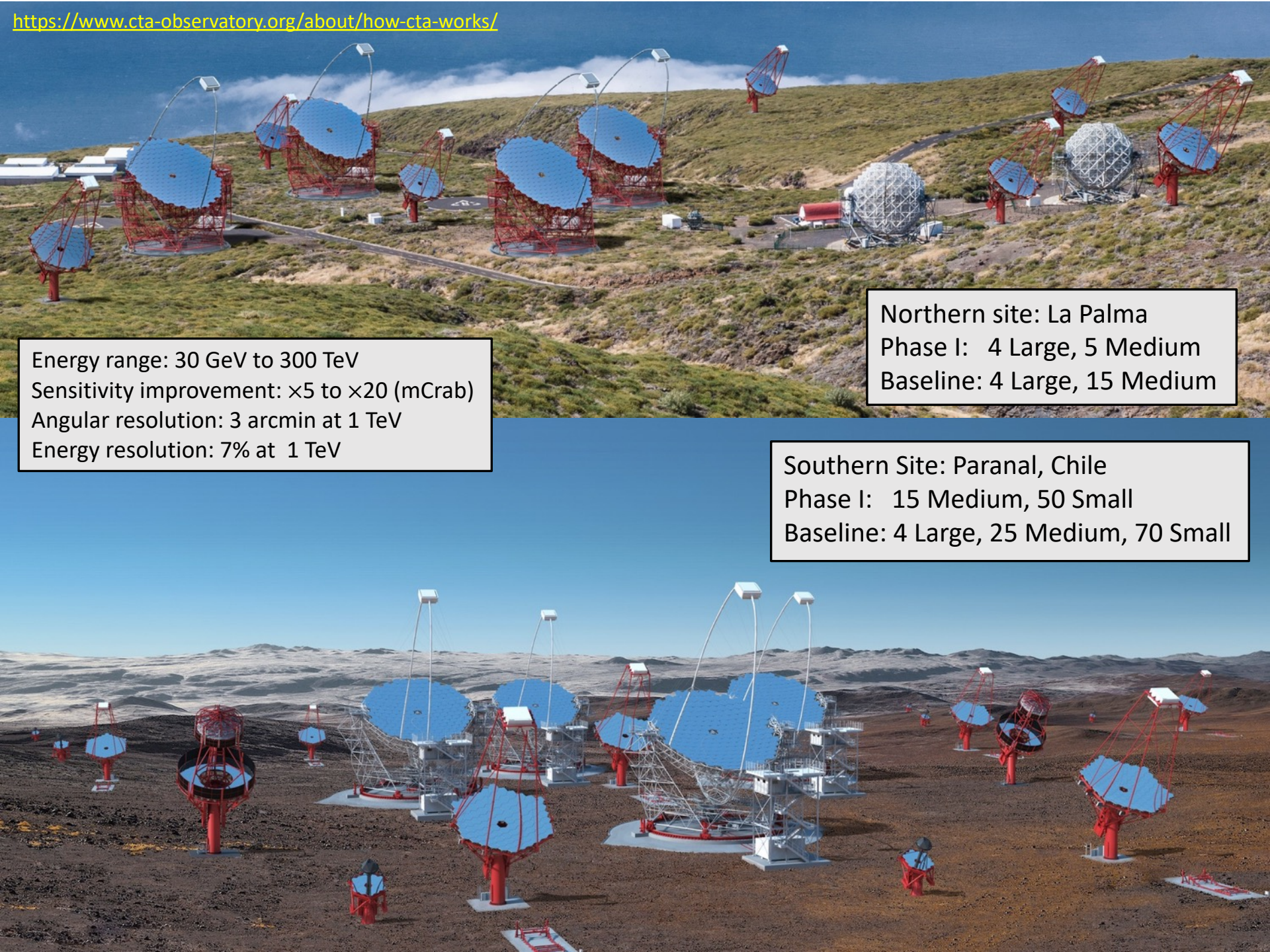
CTA Slides for Snowmass session 140

Jamie Holder, for the CTA Consortium

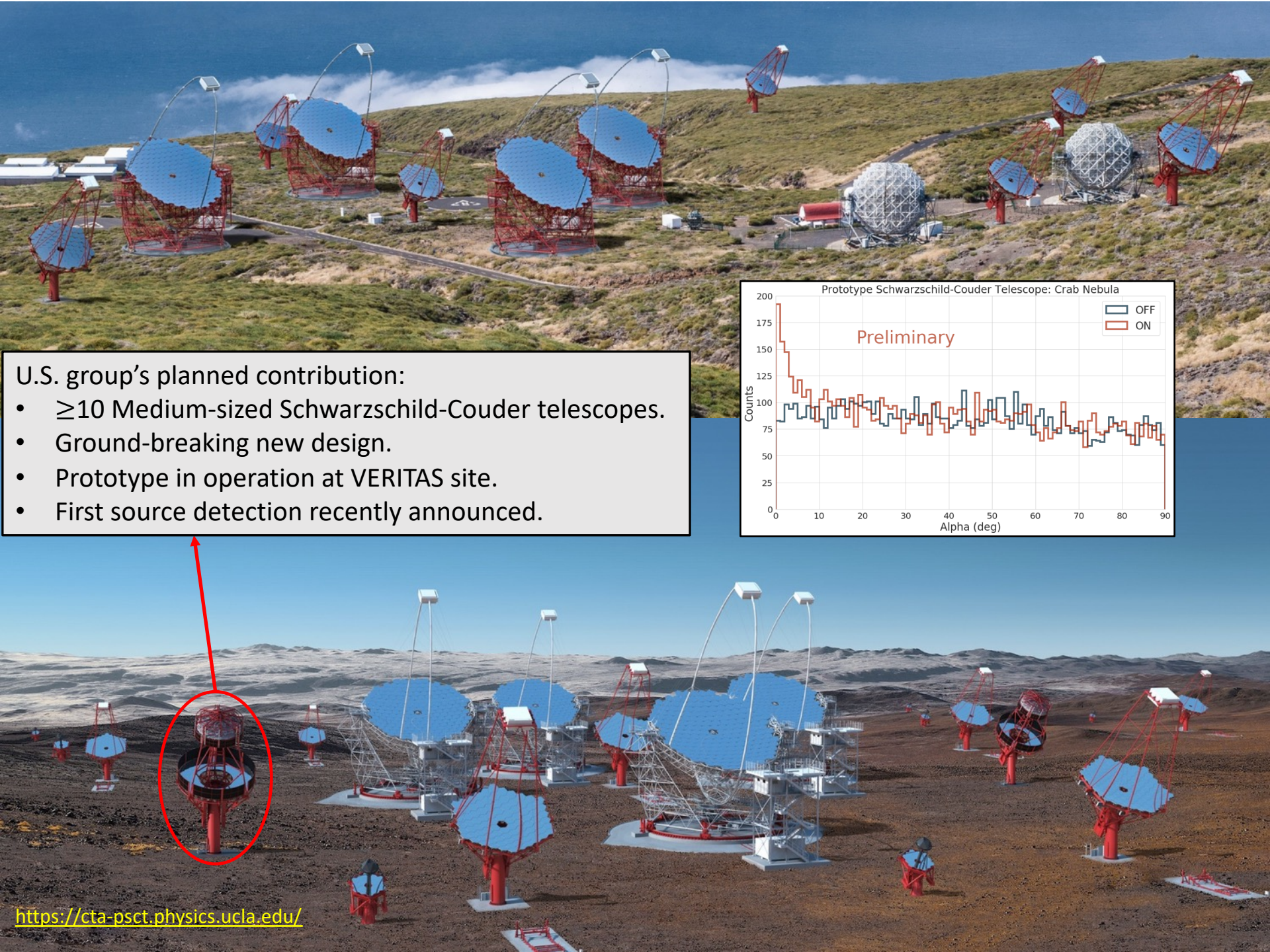
https://www.cta-observatory.org/about/how-cta-works/



Energy range: 30 GeV to 300 TeV
Sensitivity improvement: ×5 to ×20 (mCrab)
Angular resolution: 3 arcmin at 1 TeV
Energy resolution: 7% at 1 TeV

Northern site: La Palma
Phase I: 4 Large, 5 Medium
Baseline: 4 Large, 15 Medium

Southern Site: Paranal, Chile
Phase I: 15 Medium, 50 Small
Baseline: 4 Large, 25 Medium, 70 Small



U.S. group's planned contribution:

- ≥10 Medium-sized Schwarzschild-Couder telescopes.
- Ground-breaking new design.
- Prototype in operation at VERITAS site.
- First source detection recently announced.

CTA Key Science

- Galactic Centre Survey
- LMC Survey
- Galaxy Clusters

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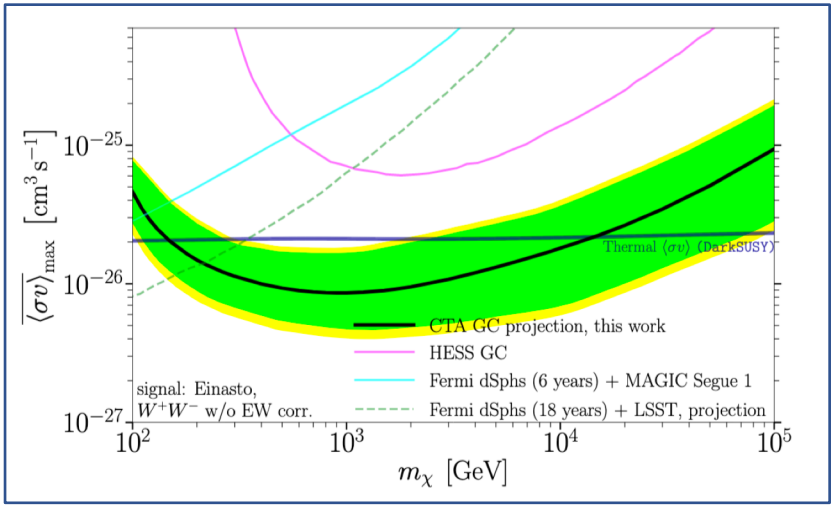
- Dark Matter studies



- Extragalactic Survey
- Active Galactic Nuclei

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- Axion-Like Particles
- Lorentz Invariance Violation
- Extragalactic background light
- Intergalactic B-fields

- Galactic Plane Survey
- Transients
- PeVatrons
- Star Forming Systems
- Capabilities beyond gamma-rays

- Electron/positron spectrum
- Multimessenger science
- Synergy with aLIGO, IceCube Gen2, Rubin Observatory, Fermi Space Telescope, AMEGO, SWGO, Auger, etc…

https://arxiv.org/abs/1709.07997