

# **GammaSAG Update and Plans**

on behalf of the GammaSAG  
PhysPAG at AAS, Long Beach, CA  
January 6, 2013

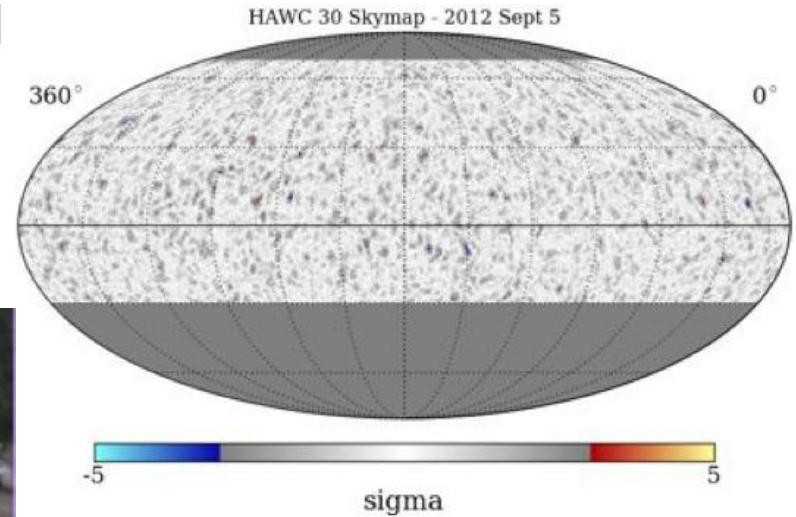
<http://pcos.gsfc.nasa.gov/sags/gammasag.php>

# High Impact Gamma-ray Science in 2012

- The 2<sup>nd</sup> Fermi-LAT source catalog is the most cited refereed astrophysics publication of 2012 (225)
  - 10<sup>th</sup> is tentative detection of dark matter using Fermi data (Weniger et al.)
- “Mapping the Dark Cosmos”, including possible gamma-ray signature of dark matter, appears as #8 in the Top 10 Discovery magazine stories of the year

# Gamma-ray News and Notes

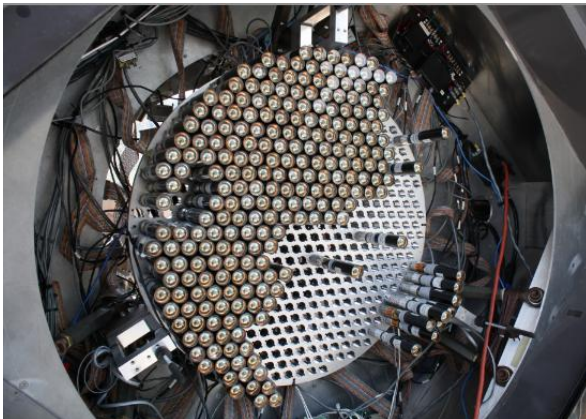
HAWC-30 completed. 100 tanks planned for Aug. 2013. Provides daily coverage for much of Northern Hemisphere.



HESS giant 28-m telescope inaugurated.



VERITAS camera upgraded



High QE  
PMTs  
increase  
sensitivity

# Activities

- August organizational meeting
  - Great involvement and inputs from across the community
    - Operating missions (Swift, Fermi)
    - Planned observations (Nuclear Compton Tel.)
    - Developing technology (Compton polarization, scintillator and silicon detectors)
    - Future missions (Gamma 400)
  - SAG set focus on gamma-ray science from  $\sim 100$  keV and up
    - Will coordinate overlapping topics in the hard X-ray regime with XRSAG

# Activities

- Discussed organization of white paper
  - Review science and technology in the context of connections to key topics in PCOS and the decadal survey
  - What are the important science questions?
  - Broad energy range! Gap between hard X-ray/Fermi-LAT. Connection to planned ground-based gamma-ray telescopes.
  - Considering range of scales possible from balloon/ULD to probe and explorer or large mission (future) capabilities
  - Developing a working “library” of gamma-ray science and technology references

# Plans

- Meetings
  - Organizing telecons over next months to discuss white paper draft and technology inputs to PCOS. First of these will be in January.
  - Possibility for an informal face-to-face SAG meeting at April APS – stay tuned!
- Goal for white paper completion is Summer 2013

# Getting Involved with GammaSAG

- Visit the website:

<http://pcos.gsfc.nasa.gov/sags/gammasag.php>

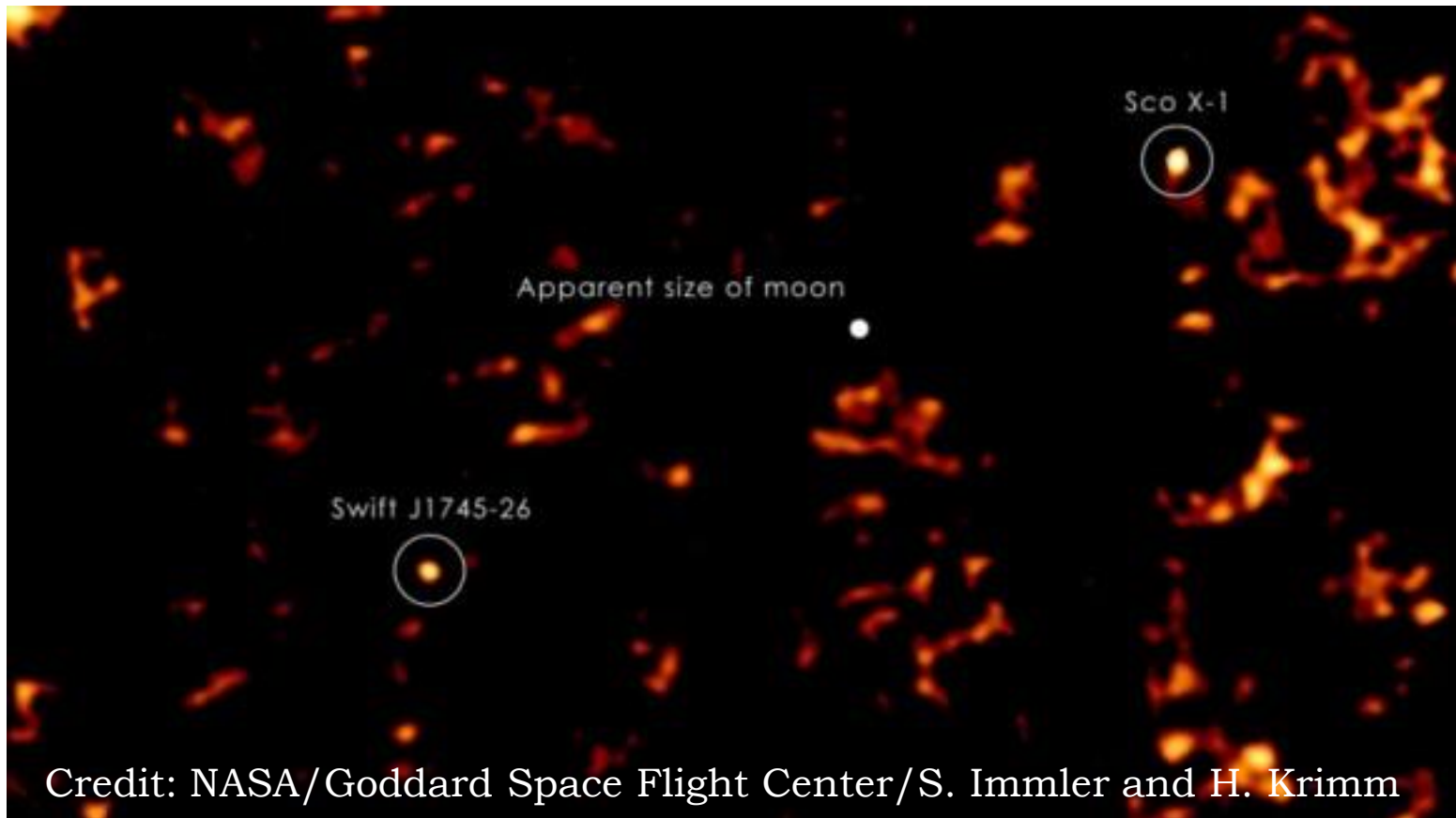
- Sign up for e-mail notifications
- Contact chair with comments and questions: Liz Hays (elizabeth.a.hays at nasa.gov)

# backup



# Gamma-ray News and Notes

Swift BAT detected an X-ray nova on Sept. 16 – first of mission. Compact object is likely a black hole.



Credit: NASA/Goddard Space Flight Center/S. Immler and H. Krimm