


CosmicSig Meeting

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Baltimore, MD

“Balloon News”



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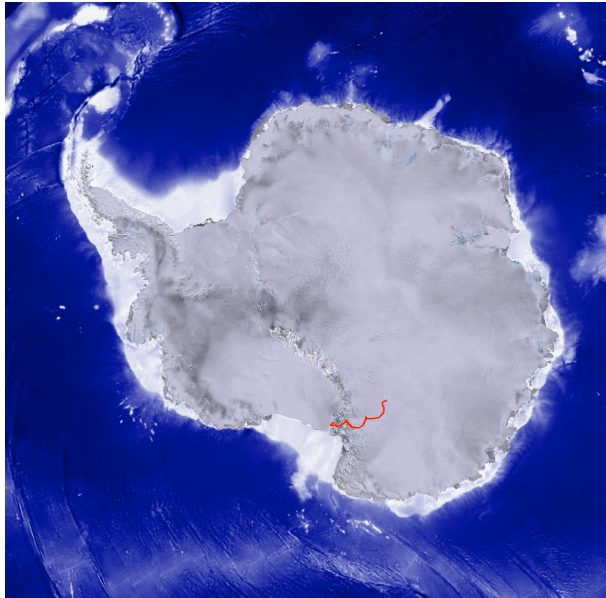
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FY-2015 Antarctica Balloon Flights

- ❖ FY-15 Antarctica campaign of 3 balloon flights began in December 2014. The payloads were:
 - **COSI** (COmpton Spectrometer and Imager) Boggs/UCB gamma-ray telescope on Super Pressure Balloon (SPB).
 - To understand the development of structure and the cycles of matter and energy in the evolving universe.
 - *It was planned for an extended flight with potential recovery off the Antarctic continent.*
 - **ANITA** (ANtarctic Impulsive Transient Antenna) Gorham/UH cosmic neutrino detector.
 - Radio detection of neutrinos with energy above 10^{18} eV interacting in Antarctic ice, as well as ultra high-energy cosmic ray showers.
 - **SPIDER** Jones/Princeton CMB detector to study the genesis of the early Universe.
 - A balloon-borne polarimeter that borrows heavily from combined heritage of the successful BOOMERANG and BICEP experiments.



FY 2015 Antarctic Campaign Highlights

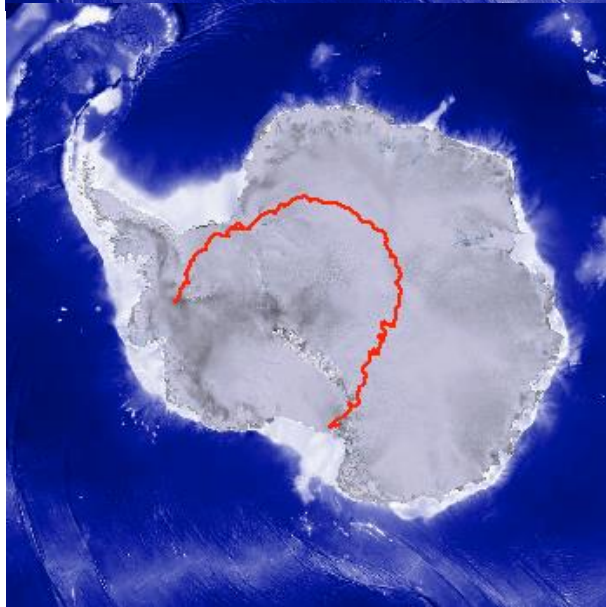


**SPB/CO
SI**
~2 days



ANITA

22 days, 9 hours, 14 min

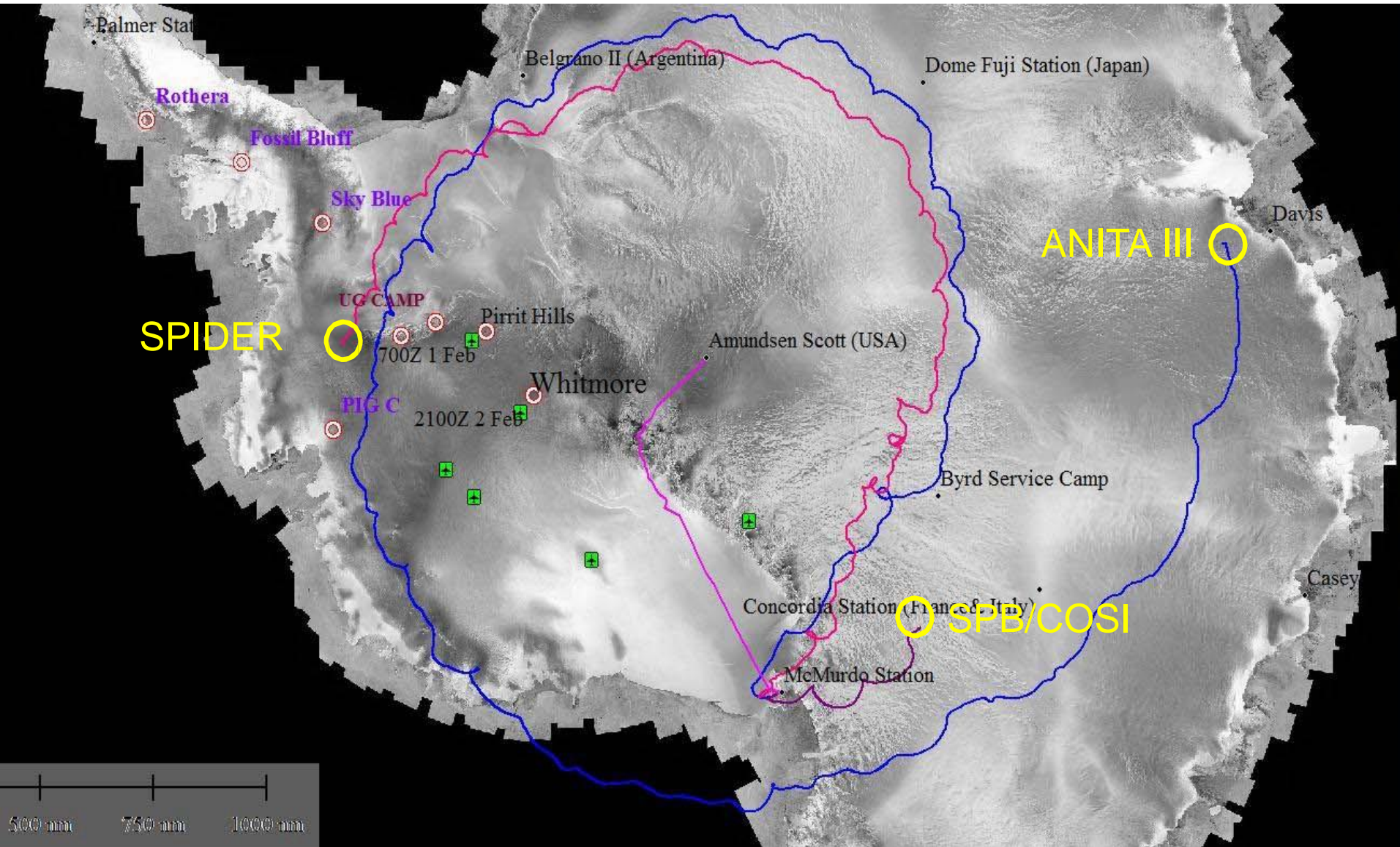


SPIDER ~15 days

British Antarctic Survey (BAS) Recovered
payload to Argentina.

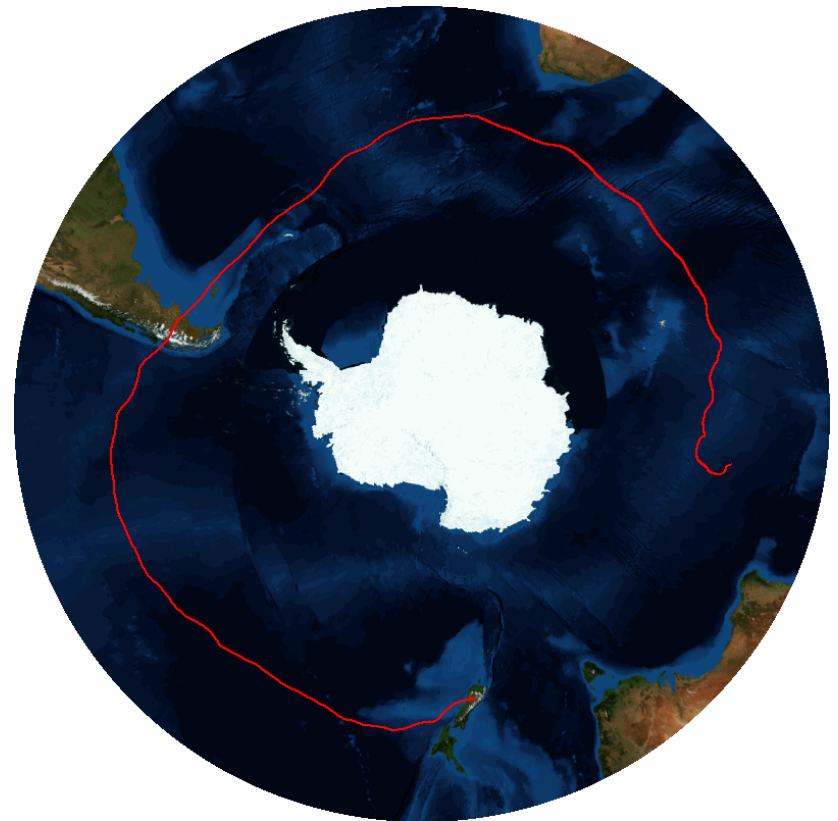
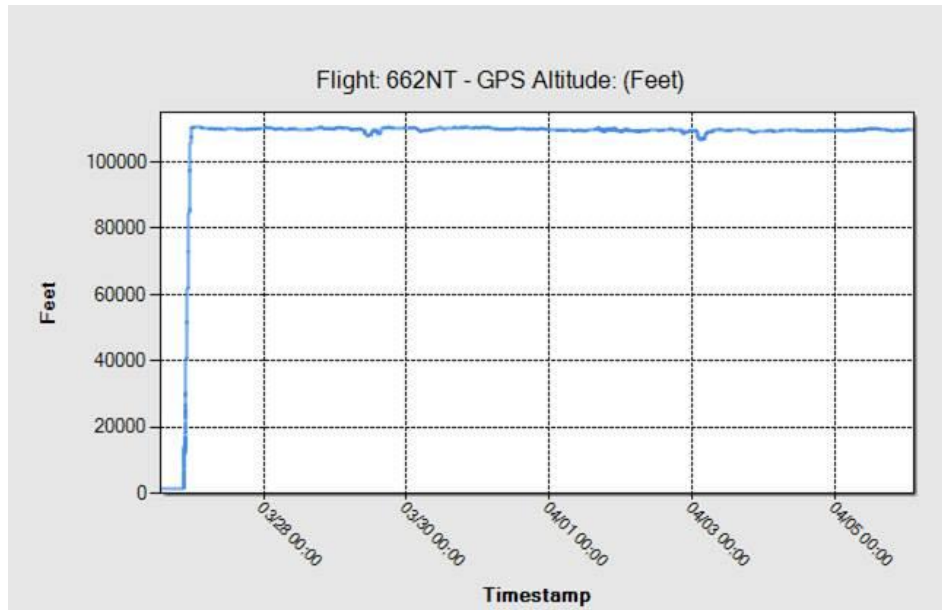
**** Super-TIGER was fully recovered after
spending two seasons on the ICE!**

FY15 Antarctic Balloon Payload Impact Sites



First NASA Balloon Launched from Wanaka, NZ

- Launched from Wanaka, NZ on morning of 3/27/15.
 - ✓ Afternoon of 3/26/15 EST.
- Balloon remains healthy **4/9/15 >14 days into the flight!**
 - ✓ Floating at nearly altitude around 109,000 – 110,000 ft.



Need for a Suborbital Strategic Plan

Since FY 2011, SMD has:

- Launched **114 Sounding Rocket and Balloon missions;**
- Flown over **13,500 airborne science hours** in support of science and technology investigations;
- While providing **3,800 undergraduate and graduate students the opportunity to participate in scientific research!**

Suborbital Strategic Plan.

- The **Senior Program Executive for Suborbital Programs**, and
- **Senior Scientist for Suborbital Research**, have suggested this need, which was
- Suggested independently by the **Balloon Working Group (BWG)**.



Science/Technology
Development



Cutting Edge
Scientific Research



Validation of Satellite
Measurements