

**Name:** Makoto Sasaki

**Code:** 661

**Home institution:** University of Maryland, College Park

**Name of task:** TIGERISS (661.035), Cosmic Ray Balloon Program (661.036), CALET (661.037), ComPair-2 (661.045)

**Role in task / what they do for CRESST:** Instrument Scientist for TIGERISS, development of the TOF subsystem and related electronics for pGRAMS, data analysis for SuperTIGER, Co-I for CALET, development of the trigger system for ComPair-2 / I have worked on varieties of scientific balloon-borne experiment and satellite missions. I am mainly involved in the development of instruments, especially their readout electronics, to improve their performance.



**Background / Autobiography?** During my graduate school years, I was involved in the BESS experiment at the High Energy Accelerator Research Organization (KEK), which used a superconducting spectrometer to search for antimatter in galactic cosmic-rays. After receiving PhD in physics from Kobe University, I spent a couple of years as a COE researcher at KEK, and then started working at GSFC as an NRC researcher. After working at USRA, I became a CRESST Scientist at UMCP.

**Favorite part of being a CRESST Scientist?** Even during a government shutdown, we can still work and get paid as usual.

**Highlight of research as a CRESST Scientist?** The results of an antihelium search, which I had been working on since my graduate student days, were selected for an “Editors’ Suggestion” in Physical Review Letters and featured as a picture story in Nature Physics.

**List of publications, presentations, conferences they have spoken at etc.**

“Search for Antihelium with the BESS-Polar Spectrometer”, K. Abe *et al.*, Phys. Rev. Lett. **108**, 131301 (2012)

“Measurement of the Cosmic-Ray Antiproton Spectrum at Solar Minimum with a Long-Duration Balloon Flight over Antarctica”, K. Abe *et al.*, Phys. Rev. Lett. **108**, 051102 (2012)

“Galactic Cosmic Ray Origins and OB Associations: Evidence from SuperTIGER Observations of Elements  $^{26}\text{Fe}$  through  $^{40}\text{Zr}$ ”, R. P. Murphy, M. Sasaki *et al.*, The Astrophys. J. **831** (2016) Issue 2, article id. 148, 7pp

“Energy Spectrum of Cosmic-Ray Electron and Positron from 10 GeV to 3 TeV Observed with the Calorimetric Electron Telescope on the International Space Station”, O. Adriani *et al.*, Phys. Rev. Lett. **119**, 181101 (2017)

**List of awards won:**

2013 NASA Group Achievement Award to SuperTIGER Balloon Team

2013 GSFC Astrophysics Science Division 2013 Peer Award

2009 NASA Group Achievement Award to BESS Polar Team

2005 GSFC Exploration of the Universe Division 2005 Peer Award

2001 NRC Research Associateship

**Three fun facts:**

1. The apartment I lived in when I was a university student was total collapse by the Great Hanshin Earthquake, but I was saved because I was on a business trip to the KEK at the time.
2. During the first balloon campaign at Ft. Sumner, USA, in 2001, the first launch opportunity was September 11. Naturally, the airport was closed, and all activities were cancelled.
3. These are facts, but not fun.