

# Cosmic Ray Response of Multiplexed TES Arrays



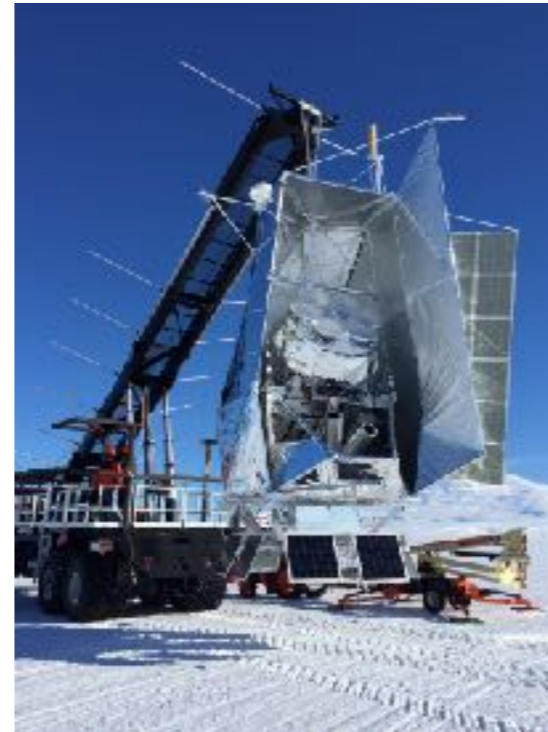
SPIDER's Experience in Flight and Lab

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*for the SPIDER collaboration*

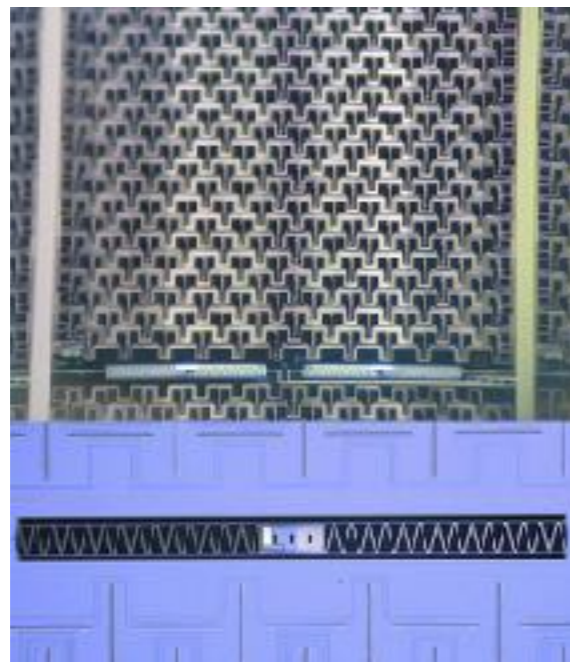
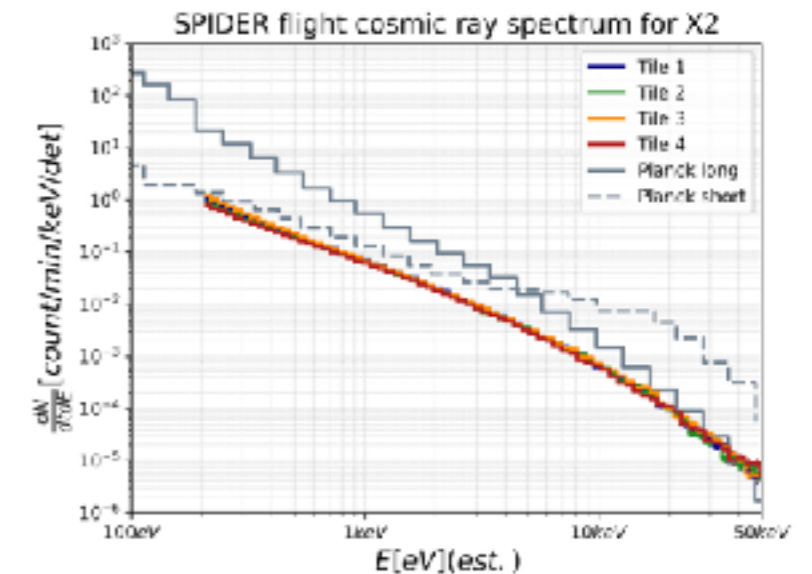
**Full-system** test of cosmic ray response of modern TES arrays to inform future space missions

What are the effects of **shared wafers** and **shared wires**?  
*Rates, spectra, coincidence, pulse shapes*



## SPIDER LDB flight

2400 TESs, 16 days @ 36km



JPL antenna-coupled arrays  
Ti TES ( $T_c \sim 0.5K$ )  
Time-division multiplexer

## Laboratory tests

128-TES wafer (post-flight)  
Am-241 source

