Development of a Blackbody Microwave Source for Cosmic Background Polarimeter Characterization

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Where Was I?
Why are we here?

Quantum fluctuations just after the Horrendous Space Kablooie
What is the CMB?

Measured by WMAP

But - no earlier light visible

Afterglow Light Pattern
375,000 yrs.

Inflation

Quantum Fluctuations

Dark Ages

Development of Galaxies, Planets, etc.

Dark Energy Accelerated Expansion

1st Stars about 400 million yrs.

Big Bang Expansion

13.77 billion years
So how do we measure the Cosmic Microwave Background?
Cosmology Large Angular Scale Surveyor
The Transition Edge Sensors operate on the normal-superconducting transition at 150mK.
But only if the detectors behave predictably – so how do we accomplish this?
Testing!
Improved Kevlar bonding\n
Reduction to six threads from eight
Thermal Circuit

Thinner Kevlar and aluminum posts will provide hold times 2-3 times longer than the existing design.
CLASS and future missions will tell us even more about the birth of the universe and ourselves
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