

- Charles K. Sobeck Presentation Abstract:

Following the loss of two reaction wheels four years into its mission, the Kepler team was faced with reinventing an operational approach to continue to deliver compelling science using an unanticipated suite of actuators. Spacecraft thrusters were not designed for accurate pointing control, yet with only two reaction wheels, only two axes could be actively controlled. With solar pressure as the only disturbing force, and recognizing the innate symmetry of the spacecraft, the K2 mission points the spacecraft in the orbital plane for three months at a time, placing the antennas 90° from the earth. Mapping the solar balance ridge 70 M km from Earth, with limited communications and a reduced staff presented a significant operational challenge.

There may be charts created closer to the conference. They will be added to the 1676 as addendum.