



Recent STA Technology Developments

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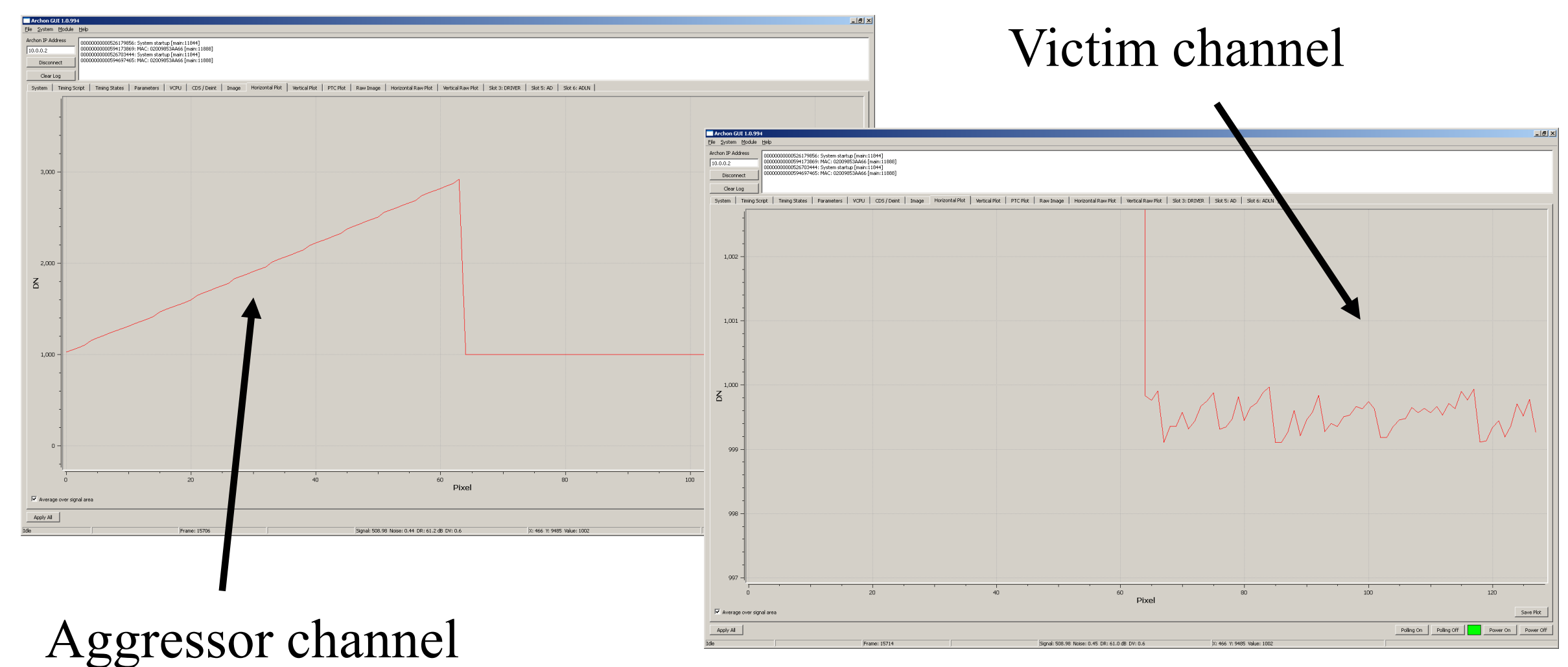
Archon AC

Archon AC, an updated variant of the STA Archon modular scientific CCD controller is now available. The system power supplies are integrated in the main chassis, so only standard IEC power and gigabit ethernet cables are necessary for operation. A liquid cooling block is now included by default.



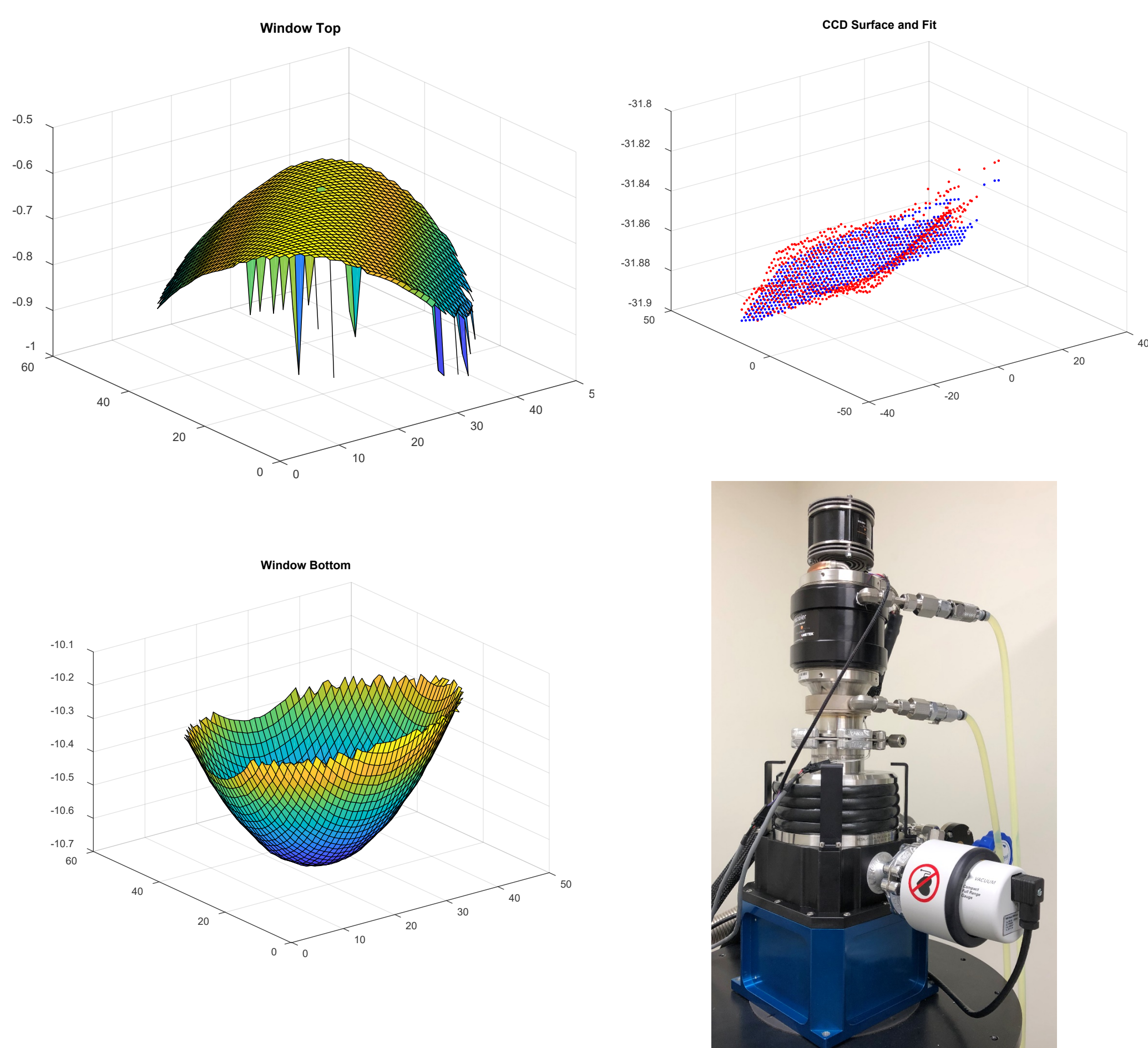
Crosstalk

A subtle form of crosstalk was discovered in Rev H and earlier versions of the Archon AD module. In particular, ramped signals on one channel would show sub-DN ramps on a neighbor. A Rev J AD module with an LVDS instead of CMOS AD output bus ruled out digital crosstalk. The cause appears to be internal to the dual channel AD9650 used. The solution was to use a single AD9650 per channel on Rev K AD modules. Crosstalk is now < 1DN in 20 bits.



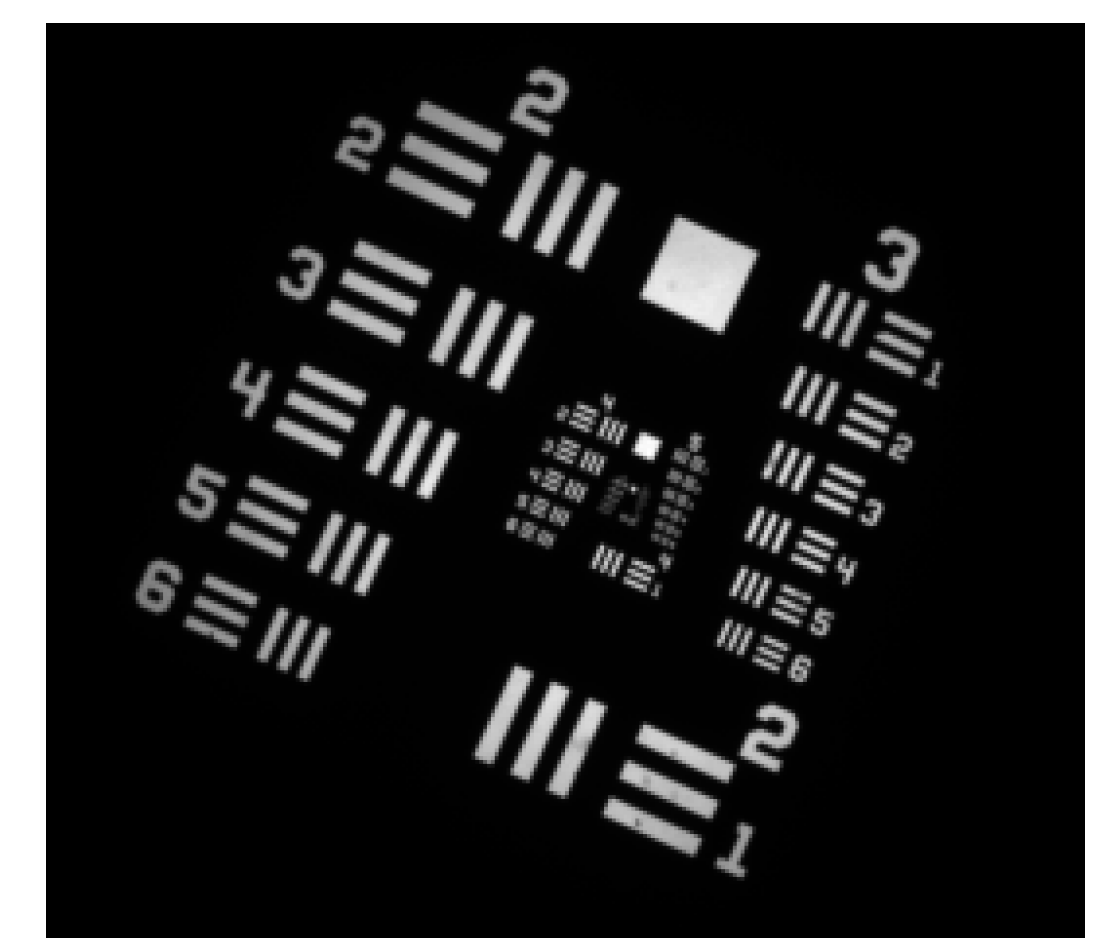
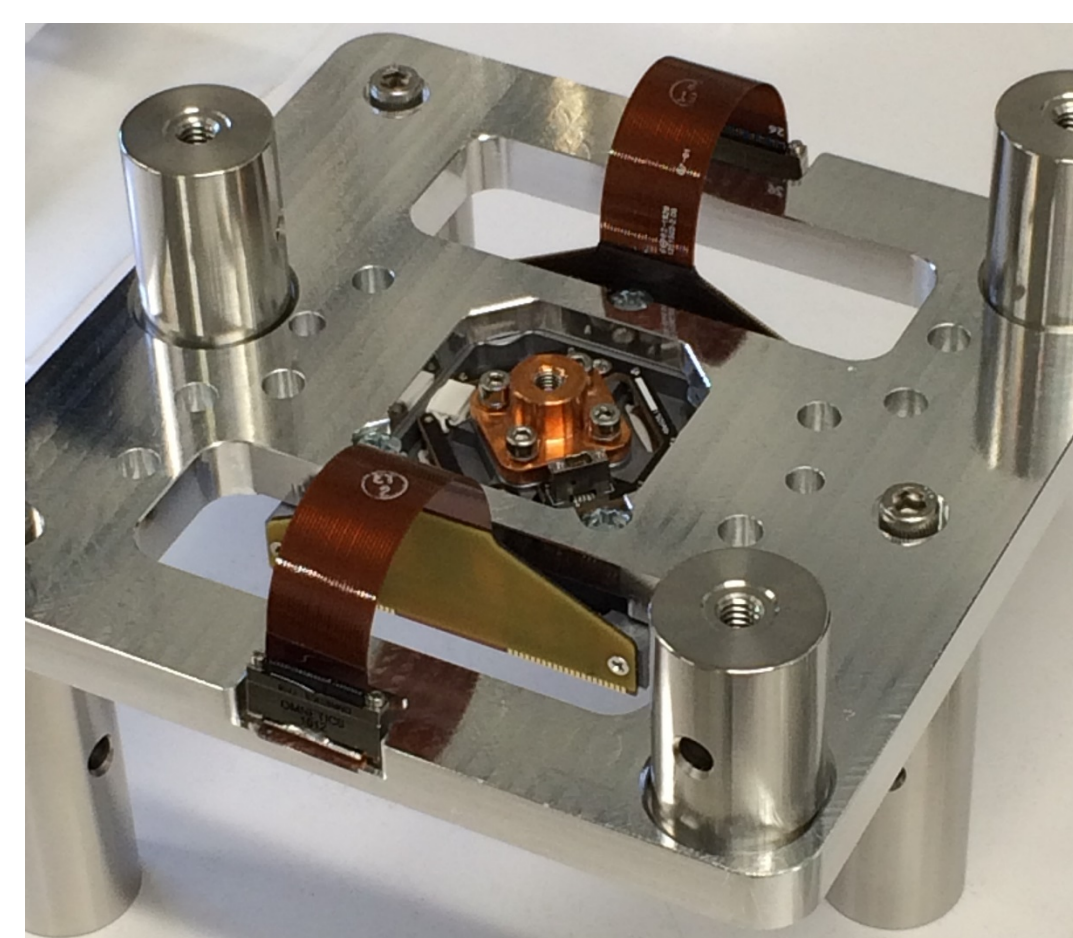
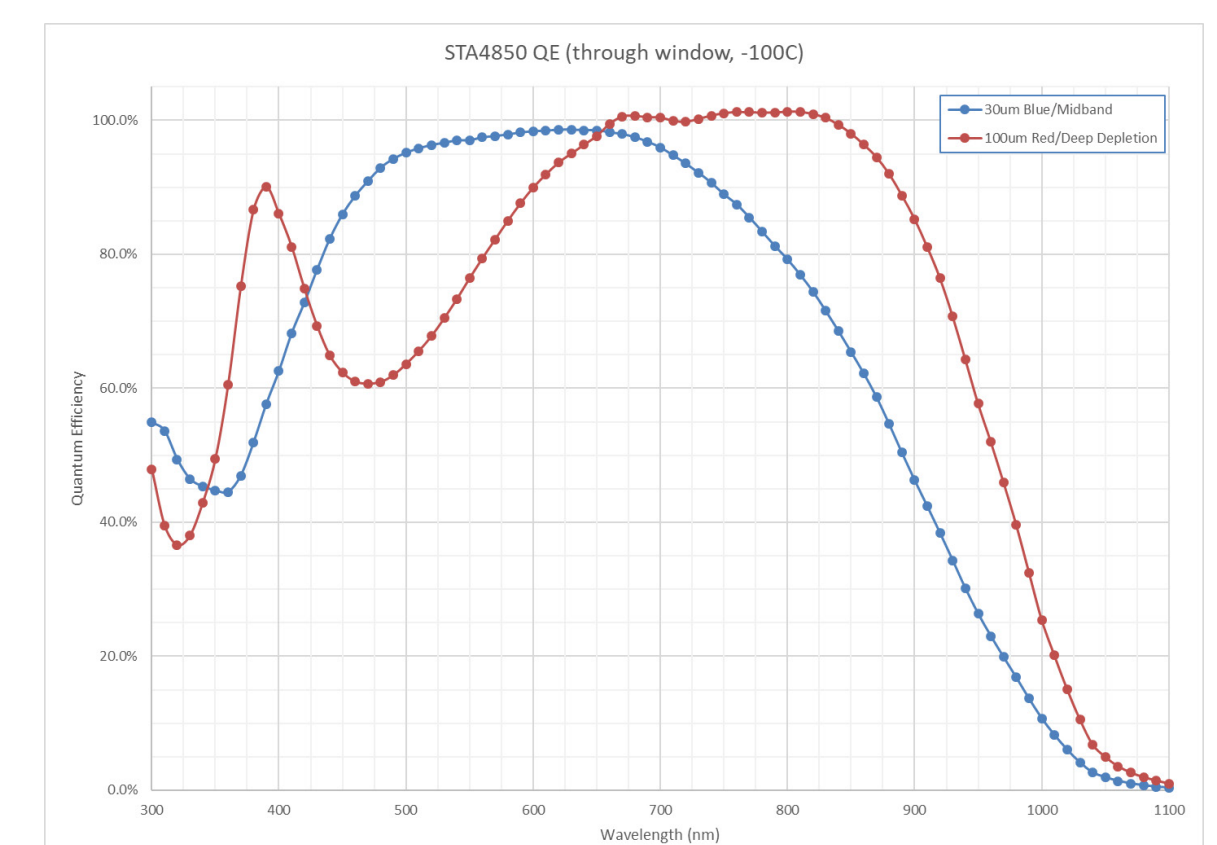
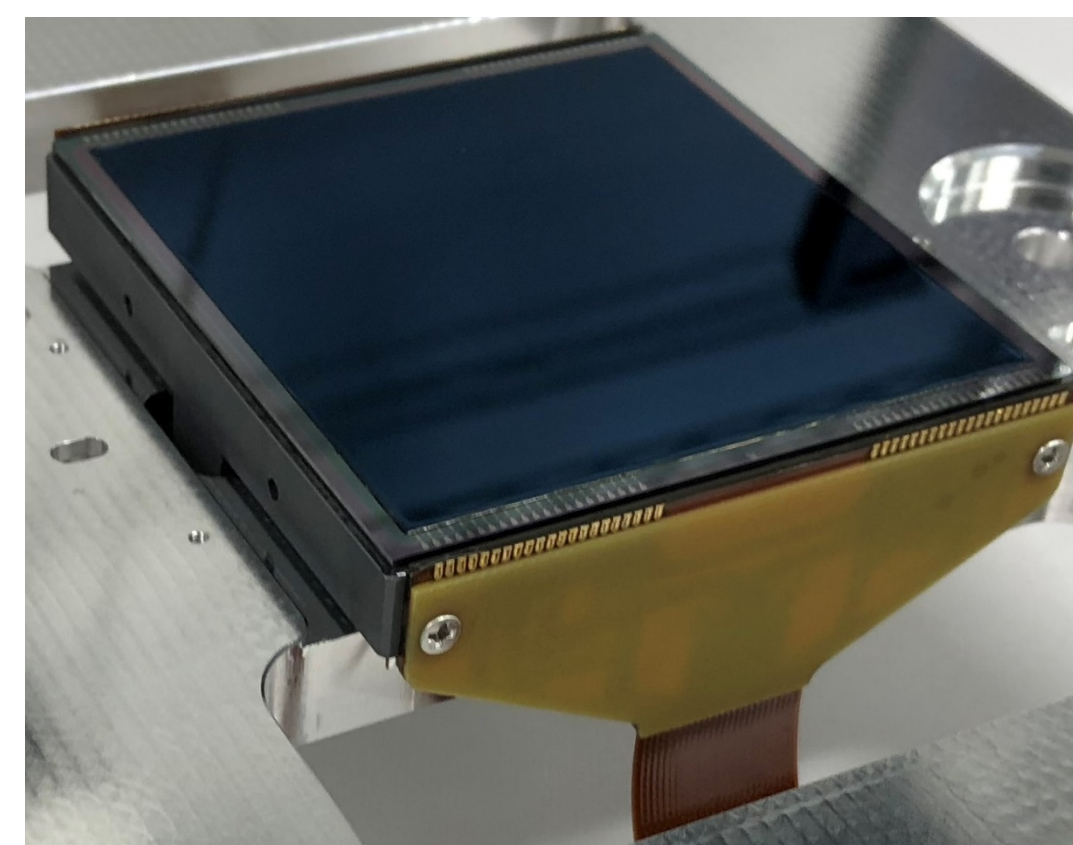
Multisurface Measurements

A Micro Epsilon confocal displacement sensor has been added to our test suite. This sensor can measure up to six surfaces simultaneously, allowing cryostat windows to be characterized along with image sensor flatness and orientation at temperature.



STA4850

We now offer the STA4850, a 4080 x 4080 sensor with 15um pixels. Improvements over the STA4150 include a dump gate and an improved package, which is both more compact and isolates thermal control from mechanical mounting. The sensor is available on 30um epitaxial or 100um bulk silicon for enhanced red response.



650nm 80ke- Air Force target on 100um STA4850