



CTI: Charge Transfer Inefficiency

The loss of charge in a CCD as it is shifted from one pixel to the next during readout. This is due to states in the lattice, called "traps," into which electrons can transition from the conduction band. Soft proton damage to the ACIS FI chips early in the Chandra mission greatly increased the numbers of these states, thereby increasing the parallel CTI and reducing the energy resolution. Although the intrinsic quantum efficiency is not changed, CTI effects can change the "grades" of events, which may result in some good events being rejected by the on-board, or ground, processing.

The acis_process_events tool can be used to ameliorate the degradation in response due to the parallel CTI issue (this work is based on that done by the Penn State and MIT teams). The Apply the ACIS CTI Correction thread describes how to do this.

The CTI correction became part of standard data processing (SDP) in the DS 6.11 software release (27 February 2003).

The ACIS CTI Correction why topic has more details.

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