The HRC-S is primarily used for spectroscopic observations with the Low Energy Transmission Grating Spectrometer (LETGS) in place. Photons are detected via signals read out from evenly spaced wires underneath the plates and positions are computed by centroiding around the strongest amplifier signals. This process leads to gaps in between the taps where no events are placed. A deterministic correction is then made during ground processing to these event locations to remove the gaps. We have now developed a new, empirical degap corrections from analyzing flight data and compare them with degap corrections derived from a re-analysis of lab data. We compute polynomial fit coefficients that can be used in CALDB correction files.

We find significant differences among the flight, lab, and the CALDB degap solutions, consistent with recent independent findings of amplifier mismatches in the HRC-S and non-linearities in the LETGS dispersion relation. In general, the differences are of sufficient magnitude to account for the non-linearities in the dispersion relation, but in practice do not fully explain these non-linearities.

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