Transient correction for ISOPHOT C-100 detector

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The C–100 detector is a unstressed Ge:Ga 3×3 matrix array dedicated for IR observations between 60 to 120 μm. The transient behavior of this detector has been studied then modelized using an empirical non linear and non symmetrical model. A block by block dedicated inversion method has been developed.

After a description of the detector behavior, the change of its responsivity and the noise characteristics, we will discuss the transient behavior, the accuracy of the inversion method, the influence of the parameters then the validity range of this transient correction method.

Several problems have been identified which actually reduce the usefulness of any transient correction methods for ISOPHOT C–100. We will discuss the limitation of the photometric accuracy due to precision of the correction method applied to the FCS observations. During one given observation the accuracy of the correction method is strongly related to the block size and the glitch rate. We will also discuss the non-stationarity of the noise observed in the data.