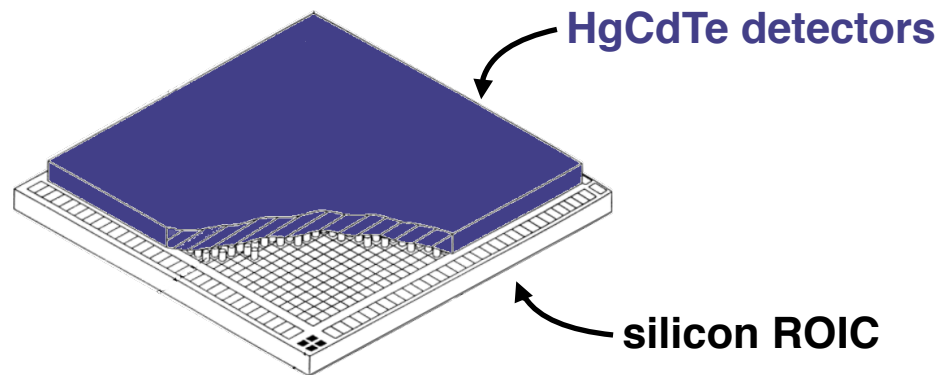
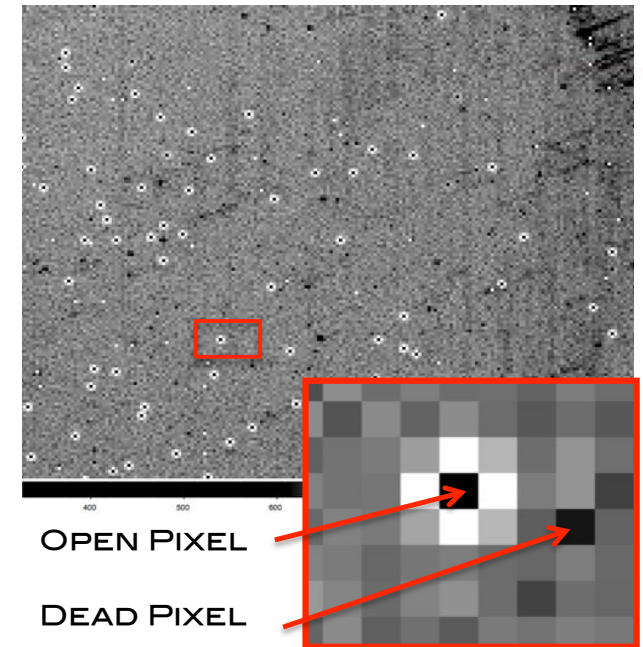
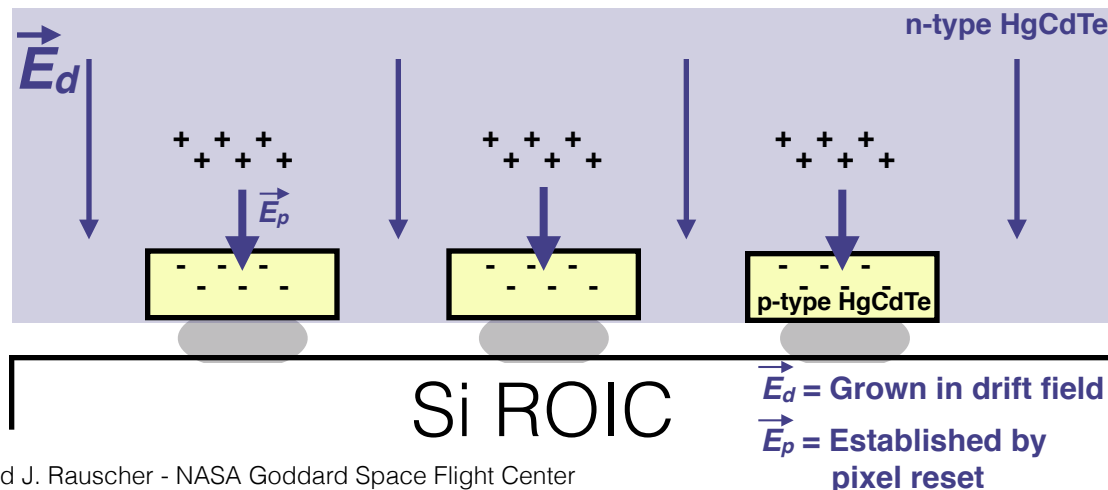


- An HgCdTe detector array consists of an HgCdTe detector layer hybridized to a silicon readout integrated circuit (ROIC)



- In HgCdTe, each pixel is a photovoltaic diode
- No physical barriers between pixels; pixel pattern established when reset voltage is applied to diodes
- Charge integrates in diode capacitance across p-n junctions



*Credit: Marco Sirianni, ESA/ESTEC*

In an “open pixel, the interconnect is damaged and there is no electrical connection between the HgCdTe detector layer and the ROIC. There is therefore no potential well for charge to be collected in. Under flatfield illumination (shown), charge randomly walks to the nearest good pixel, where it is collected. Open pixels appear as a dark pixel surrounded by 4 bright pixels. Open pixels are an extreme example of charge that is incident upon a pixel being collected in neighbors.