

## **Astronomical Instrumentation In Space**

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Space borne astronomy instrumentation share a heritage with precursor instruments developed for traditional optical and near-IR ground based astronomy observatories. However deployment in space allows the opening of new wavebands not accessible from ground (e.g. sub-mm, UV and X-ray). This has driven many of the developments for space-based astronomy. Detector developments have to accommodate the particular features of the space environment and the hostile requirements of surviving launch. We describe features such as cosmic ray rejection, radiation hardness, thermal design, vacuum techniques that must be addressed consequently in instrument design.

Many of these constraints lead to programmatic implications that force unusually long development times compared with ground applications. Examples of past, present and future astronomical instruments are used to illustrate a range of these issues.