

Detector Needs for SOFIA

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For the Detector Group

The Future of SOFIA

- For SOFIA to fulfill its scientific promise, high performance detectors are essential
- Detectors are needed with ~ 100 times the number of pixels of the present generation of devices
 - Required sensitivity is well within the state of the art.

Availability of Detectors

- High performance large format detectors are commercially available for $\lambda > 40 \mu\text{m}$
 - Continued commercial viability is a concern
- For $\lambda > 40 \mu\text{m}$, the detectors are made in specialized labs. Development is necessary to make the large scale detectors available to the community.

Solution

- The SOFIA community would like to work with the SOFIA project and NASA HQ to develop a program for the development and production of these detectors
 - A possible model is the GSFC/JPL consortium for the deliver of cryogenic detectors to the community.
 - Focus on areas of critical importance to SOFIA

Summary

- These improvements would:
 - Allow the full realization of SOFIA's science promise
 - Fully exploit SOFIA as a focal point for the development of new technologies for astrophysics
 - Train the next generation of scientists/experimentalists
 - Pave the way for future long wavelength space missions