

V42b **Antarctic Infra Red Camera**

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Antarctica offers a unique location for observations because of its good seeing conditions and the six months of dark winter allow long continuous observations. This paper describes the design and development of the Antarctic Infra Red Camera (AIR-C) for use with Tohoku University's 40 cm telescope at Dome Fuji. AIR-C will operate in the K and L bands, and the new Antarctic 3.1 micron band. The K band can be changed to " K dark " by manually replacing the filters. All three channels can be observed simultaneously. The camera also has a spectrograph mode.

Antarctica also offers unique design challenges because the average temperature is - 55 Celsius, dropping as low as -80. The Dome Fuji station is unmanned during the winter months. Another difficulty is finding a reliable power supply.