Overview

PRIME is a 1.8-m diameter wide field alt-az telescope with a near IR (to H-band) prime focus camera giving a 1.13° x 1.13° field of view. In addition there will be a fibre-fed high resolution spectrograph, SAND, which will cover 900-1200Å at R ~ 55000.

PRIME is a joint Japanese-US-South African project involving the University of Osaka, The AstroBiology Center of the Japanese National Institutes of Natural Sciences, the NASA Goddard Space Flight Centre, the University of Maryland and SAAO. The fraction of time available to the South African community outright is 14%, although the data from the main survey (which will represent 50% of the observing time) will be made available to the community.

It is expected to be installed in Sutherland in the latter part of 2020.

The (outdated) website for PRIME is: [1]

A presentation on PRIME by the PI, Taka Sumi, can be downloaded from here:

[2]

Specifications:

diameter = 1.8-m

f/ratio (prime) = f/2.3

f/ratio (fibre injection) = f/3.3

prime focus detector = mosaic of 4 x H4RG-10 HgCdTe arrays with 10 micron pixels (flight spares from the WFIRST mission)

filters: z, Y, J, H, selected narrow bands ([FeII]?Pa??HeI, used in parallel with broadband to reduce OH contamination)

Science Drivers:

Main programme (50% of total time, mostly in winter):

microlensing detection in the Galactic bulge (50% of total time) to search for exoplanets

Secondary programmes (comprising the remaining 50% of the time):

exoplanet transits

Galactic structure

variable stars

transients (with ToO over-ride capability)

Schedule:

Preliminary building design: completed Nov 2019

Ash Dome (9-m diameter): arrival at Sutherland expected end Mar 2020

Building commencement expected: end-April 2020

Building completion expected: end-Sep 2020

Telescope and dome installation: Oct 2020

Camera completion: end 2020

Commissioning: beginning early 2021

SAAO Contact:

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