Two new NZ observatories for \( \mu \)lens follow-up

- Harry Williams Telescope
- BOOTES-3

Grant Christie
Harry Williams Telescope

- 0.52m Cassegrain (F/10, F/12, F/15)
- Torque tube mount (no meridian flip)
- Closed or open tube
• Byers worms for RA & Dec (22.5 & 15 inch)
• Bisque TCS 4000
• Optec TCF-S focuser
• Focal reducer >> F/8
• CCD with FoV ~20-30’
Harry Williams Telescope:

The Plan

• Upgraded to research standard
• Located at a dark site (near Auckland)
• Open air or dome?
• Filtered CCD
• Capable of remote operation
BOOTES-3 Telescope

- 0.6m RC F/8
- German Equatorial mount (no meridian flip)
- High precision tracking & pointing
- Very high slew rates
- Located Vintage Lane Observatory
- Remote operation from mid 2009
Burst Observer and Optical Transient Exploring System (BOOTES)
Instrumentation

- 4.0m diameter fibre-glass clamshell-dome
- Telescope is a 0.6m Ritchey-Chrétien working at f/8 by ASTELLCO GmbH (Munich, Germany). Slew of 30° per second. It has two Nasmyth foci, one of which is occupied by both the nIR and optical cameras. Alt-az mounting with field de-rotator.
- The field of view is 12'.7 x 12'.7 with a scale of 0.74''/pix.
- Dichroic filter to separate the visible and IR beams
- The BOOTES-IR CCD camera (BIRCAM) has high transmission optics and has a very high readout speed
- HAWAII-1 1024 x 1024 HgCdTe detector produced by Rockwell. It has 18.5 microns pixel pitch and comprises four independent quadrants with direct bus outputs, and low dark current below 78K.
- The 25mm filter set contains five broad band filters (zYJHK) plus two narrow band filters (H and B).
New Zealand Mean Annual Sunshine Hours, 1971 - 2000

New Zealand Mean Annual Rainfall (mm), 1971 - 2000

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BOOTES-South

Rapid response to GRBs

Plus …..

• NEOs
• Microlensing follow-up
• Brown Dwarfs
• Variable stars

• Alberto Castro-Tirado (BOOTES)
• Phil Yock (University of Auckland)
• Ian Bond (Massey University)
• Grant Christie (Stardome)
• Bill Allen (CBA-Bleinheim)
• John Hearnshaw (University of Canterbury)