# EDS

## LUNAR RANGING FROM MOUNT STROMLO

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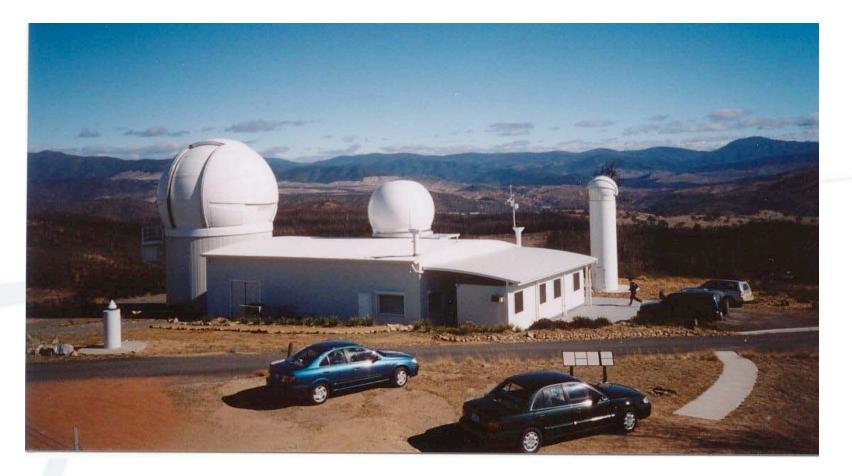
## ABSTRACT



- The Mount Stromlo SLR system is co-located with the EOS Space Research Centre [SRC] which has extremely powerful laser tracking capabilities.
- The SLR normally operates with 0.5W of laser power, but in recent months the system has been coupled to an available 50W laser and LLR sessions have been programmed from late May by EOS, using EOS research funds.
- The LLR link should be acceptable with 50W laser power, since the SLR telescope has 100cm high-quality optics and 5 microradian absolute pointing. The accuracy of the experimental configuration will be at the 10 cm level, but this can be later upgraded once target links have been established.
- The initial objective of this experiment is to determine [update] the relative responsiveness of various lunar targets, and establish operational parameters for a long-term lunar capability using millimetre-accurate systems.
- The operational configuration of this system, and any initial results will be presented.

EOS Space Research Centre on Mount Stromlo Left: 1.8-metre Keck telescope in ICESTORM dome Centre: 1.0-metre SLR telescope in TYPHOON dome. Their System Reference Points are 17 metres apart





27 May 2004

### LUNAR PREDICTIONS From MITEPH.RAW and *latest* USNO Mark3.out To separate files per target



## Filename: APO14\_04050000000\_HELL.TXT from 20 May to 8 June 2004 at 60 second intervals, continuous even when Moon is below horizon

#### **Example: From HELL and back**

<b>APO15</b>	mm	dd	hh	mm	SS	UTC Az(rad)	El(rad)	Range(sec) Site: HELL
2004	5	20	0	0	0	0.6552376	0.3366067	2.680234001748
2004	5	20	0	1	0	0.6517700	0.3386828	2.680156032623
2004	5	20	0	2	0	0.6482934	0.3407493	2.680078505954
2004	5	20	0	3	0	0.6448078	0.3428061	2.680001423251
2004	5	20	0	4	0	0.6413132	0.3448534	2.679924786016
2004	5	20	0	5	0	0.6378095	0.3468909	2.679848595746
2004	5	20	0	6	0	0.6342968	0.3489187	2.679772853869
2004	5	20	0	= 7	0	0.6307751	0.3509367	2.679697561980
2004	5	20	0	8	0	0.6272443	0.3529448	2.679622721490
2004	5	20	0	9	0	0.6237045	0.3549431	2.679548333864
2004	5	20	0	10	0	0.6201556	0.3569313	2.679474400526
2004	5	20	0	11	0	0.6165976	0.3589096	2.679400922977
2004	5	20	0	12	0	0.6130307	0.3608778	2.679327902629
2004	5	20	0	13	0	0.6094546	0.3628359	2.679255340909
2004	5	20	0	14	0	0.6058695	0.3647838	2.679183239212
2004	5	20	0	15	0	0.6022753	0.3667215	2.679111599003
2004	5	20	0	16	0	0.5986721	0.3686490	2.679040421660

#### 27 May 2004

## Are Your PREDICTIONS being Ruined by Interpolation Errors?



#### Please ensure that your interpolator is adequate !!

