ALTAIR: Access to Large Telescopes for Instruction and Research

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Report: Submitted Mar 9, 2009

http://www.noao.edu/system/altair/files/ALTAIR_Report_Final.pdf

- Convened by NOAO in response to Senior Review
- Charged to ' develop a prioritized, quantitative, science-justified list of capabilities appropriate to telescopes with apertures between 6 and 10 m.
- Input via a survey (20 'short' + 5 'essay' questions)
- Specific role of 'non federally funded' facilities and Gemini in a US 'system'.
- Expanding US access via TSIP, etc.

Magellan in ALTAIR

Considered one of the 'target' facilties with Gemini, Keck, MMT, HET, LBT, GTC, SALT, Subaru (UH).

Facility	Nights Requested	Nights Allocated	Average # of Nights/yr	Average over-subscription
Gemini N & S	3268	1015	203	3.2
Keck I & II	530	103	21	5.1
Magellan I & II	173	47	9.4	3.7
MMT	260	108	22	2.4
HET	110	67	13.4	1.6
ALL TSIP	*1073*	*325*	*65*	*3.3*
NASA Keck Access	N/A	336	67	2.5-3.0
Total Open Access		*1676*	*336*	

TSIP access and oversubscription.

Magellan's Role in US Demand of Astronomical Capabilities

Table 3: High demand capabilities in next 2-3 years

Capability	% first choice	% Top three choice	
Optical/Wide-field-imaging	16	33	IMACS, MC, MagIC, PISCO
Optical/Single-object-spectroscopy(R>15,000)	17	30	MIKE, PFS
Optical/Multi-object-spectroscopy (R<15,000)	13	31	IMACS, M2FS
Optical/Single-object-spectroscopy (R<15,000)	8	22	IMACS, MagE, LDSS3
Near-infrared/Single-object-spectroscopy(R>15000)	7	20	FIRE, MMIRS

Table 4: High demand capabilities in next 3-10 years

Capability	% first choice	% Top three choice	
Optical/Wide-field-imaging	14	27	IMACS, MC, MagIC,PISCO, (4*)
Optical/Single-object-spectroscopy (R>15,000)	11	25	MIKE, PFS
Optical/Multi-object-spectroscopy (R<15,000)	10	31	IMACS, M2FS
Optical/Single-object-spectroscopy (R<15,000)	6	18	IMACS, MagE
Optical/Multi-object-spectroscopy (R>15,000)	6	18	M2FS, IMACS
Near-infrared/Single-object-spectroscopy (R>15000)	7	18	FIRE , MMIRS
Near-infrared/Multi-object-spectroscopy (R<15000)	7	15	MMIRS

Magellan seems to align well with these and adds WF IR imaging, AO/mid-IR.

ALTAIR Conclusions

- US community has high demand for 6.5-10m class ground-based telescopes.
- Demand covers all wavelengths, 'workhorse' capabilities (optical, IR imagers, spectrographs), and 'advanced' techniques (AO, MOS)
- A US telescope 'system' avoids duplication of instrumental capabilities in the era of ever-more expensive devices.
- More and broader access to the 'system' is needed.
- Gemini does not satisfy needs and is not viewed as likely ever to for the US community.

ALTAIR Recommendations (Magellan Impact)

- Have NOAO lead efforts to develop a comprehensive 'system' (Magellan: Carrot or stick?).
- Increase TSIP funding to $10 million to gain more non-NOAO, non-Gemini access and help NOAO/NSF try to coordinate distribution of instrument capabilities (Magellan: More instruments, less time, NOAO's foot in door).
- Improve US governance and leadership in Gemini.
- Expand US share in Gemini *if* significant improvements in Gemini US responsiveness is begun (Magellan: there is a major Gemini vacuum).

Our views? Good citizens? Money grab? Allow NOA O a role in planning or governance?