

# Magellan Telescopes Observatory Report



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# Personnel

- As programmed, Felix Quiroz has been moved from construction staff to a permanent position as Magellan Mechanical Technician. (Miguel Mendez is the analagous MT on the opposite shift).
- Ongoing discussions on longer-range staffing plans (to be discussed later at this meeting).
- The Magellan construction electrician, Henry Cortes, has been shifted to a permanent position on LCO mountain staff.
- Mountain Superintendent, Carlos Callejas, was terminated. A strong candidate to replace him has been identified.

# Accomplishments

- Baade telescope optics (M1, M2, & M3) re-collimated (Nov)
- Continued commissioning of IMACS (Dec, Feb, Apr)
- Continued commissioning of MIKE Fibers (Nov, Mar)
- Installation of new detents for Clay telescope Cass rotator (Jan). Mechanical and electronic hardware all operative. Software still under development. M3 collimated for all 3 active ports. Goal is to have system operative in early-June.

# Accomplishments (cont.)

- Installation of safety interlocks on Baade & Clay telescopes. These are for lifts (telescope motion) and IMACS (telescope and rotator motion).
- New Galil PWM amplifier installed on NIR West of Clay telescope. This is a test for ultimate replacement of troublesome Glentek instrument rotator amplifiers. So far, so good...
- General revision carried out of all instrument rotators to improve reliability. (Brakes were removed, Renishaw tape encoders activated with error alarm and new power supply system.)

# Accomplishments (cont.)

- Installation completed of Racal digital switches (used for swapping video and serial communications during port changes). Control software now incorporated in GPC/M3 computers.
- Construction of seeing tower essentially complete. MASS/DIMM scheduled to be installed in May.

# Observing Statistics

6.5-m **Baade** Telescope Instrumentation Usage:

	1 Jul 2003- 5 Nov 2003	6 Nov 2003- 11 Apr 2004
IMACS	16%	58%
PANIC	48%	42%
MIKE	11%	--
B&C	25%	--

# Observing Statistics

6.5-m **Clay** Telescope Instrumentation Usage:

	1 Jul 2003- 5 Nov 2003	6 Nov 2003- 11 Apr 2004
MIKE	48%	60%
MagIC	24%	17%
LDSS-2	18%	12%
B&C	10%	11%

# Observing Statistics

**Baade + Clay** Telescopes Instrumentation Usage:

	1 Jul 2003- 5 Nov 2003	6 Nov 2003- 11 Apr 2004
MIKE	32%	30%
IMACS	7%	29%
PANIC	21%	21%
MagIC	13%	8%
LDSS-2	10%	6%
B&C	17%	6%

# Long-Term Trends: Instrument Usage

May 2001 through Apr 2004

	May 01- Oct 01	Nov 01- Apr 02	May 02-Oct	Nov 02- Apr 03	May 03-Oct	Nov 03- Apr 04
MagIC+CCD	20%	31%	13%	18%	15%	8%
B&C	44%	17%	34%	18%	20%	6%
LDSS-2	28%	40%	31%	19%	10%	6%
MIRAC	8%	3%	13%	4%	--	--
Classic Cam	--	9%	9%	8%	--	--
MIKE	--	--	--	31%	34%	29%
PANIC	--	--	--	2%	17%	22%
IMACS	--	--	--		4%	29%

# Observing Statistics

6 Nov 2003-11 Apr 2004:

	Baade	Clay
% Open	92.5	93.8
% Lost to Weather	4.4	4.5
% Lost to Telescope	1.4	0.8
% Lost to Instrument	1.5	0.9
% Lost to Computer	0.2	0.1
% Total Downtime	3.1	1.8

# Observing Statistics

## Instrument Downtime:

	1 Jul 2003- 5 Nov 2004	6 Nov 2003- 11 Apr 2004
MIKE	0.3%	0.7%
MagIC	0.2%	1.5%
LDSS-2	0.4%	1.6%
B&C	4.1%	0.0%
IMACS	4.0%	2.3%
PANIC	1.0%	0.4%

# Long-Term Trends: Baade

May 2001 through Apr 2004

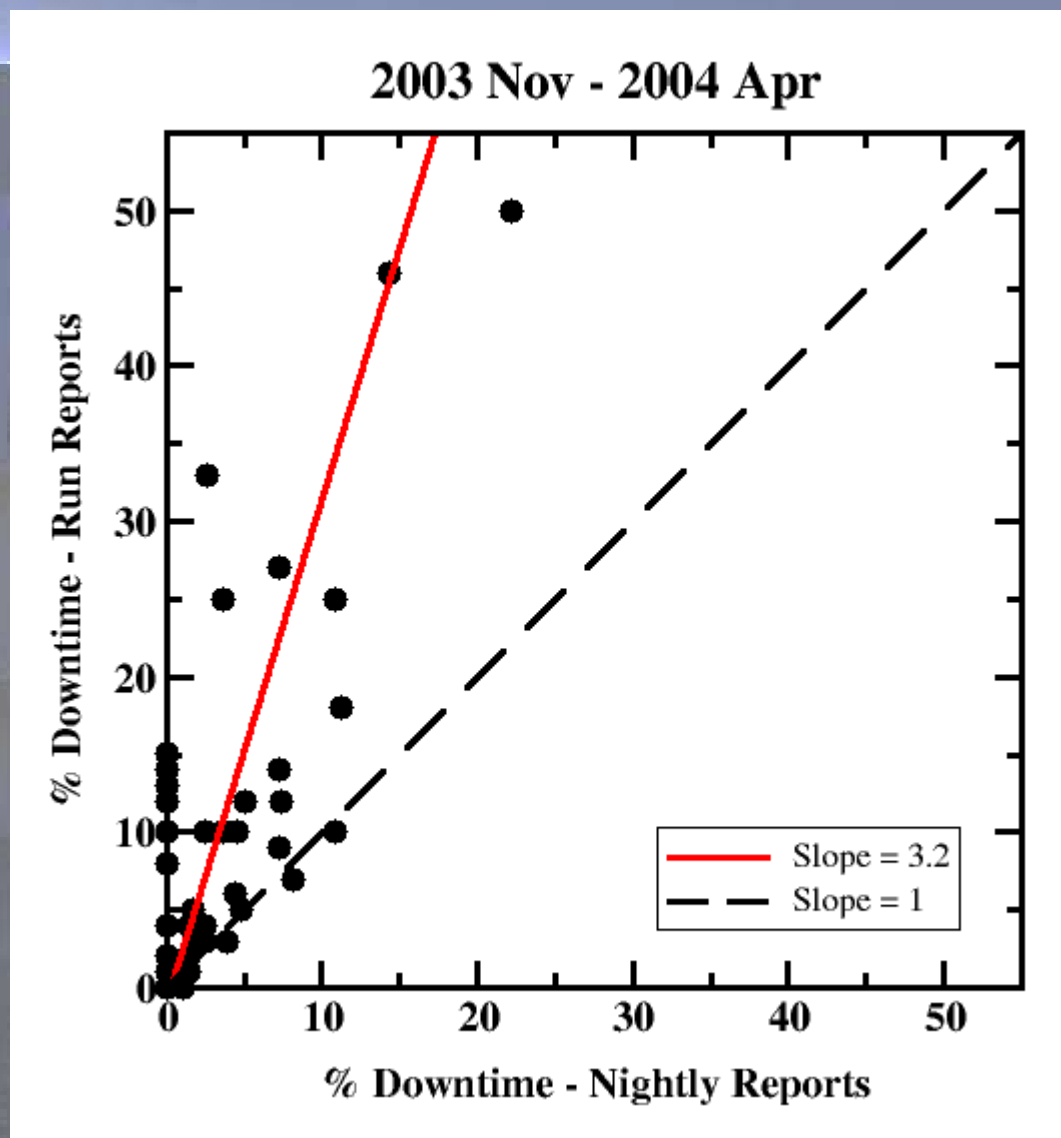
	May 01- Oct 01	Nov 01- Apr 02	May 02-Oct	Nov 02- Apr 03	May 03-Oct	Nov 03- Apr 04
% Open	74.8	85.6	67.1	94.4	71.4	92.7
% Lost to Weather	20.6	9.7	31.1	3.1	23.7	4.3
% Lost to Telescope	1.3	3.6	1.1	1.4	2.7	1.4
% Lost to Instrument	2.5	1.0	0.7	0.6	2.1	1.5
% Lost to Computer	0.4	0.2	0.1	0.5	0.1	0.2
% Total Downtime	4.2	4.8	1.9	2.5	4.9	3.1

# Long-Term Trends: Clay

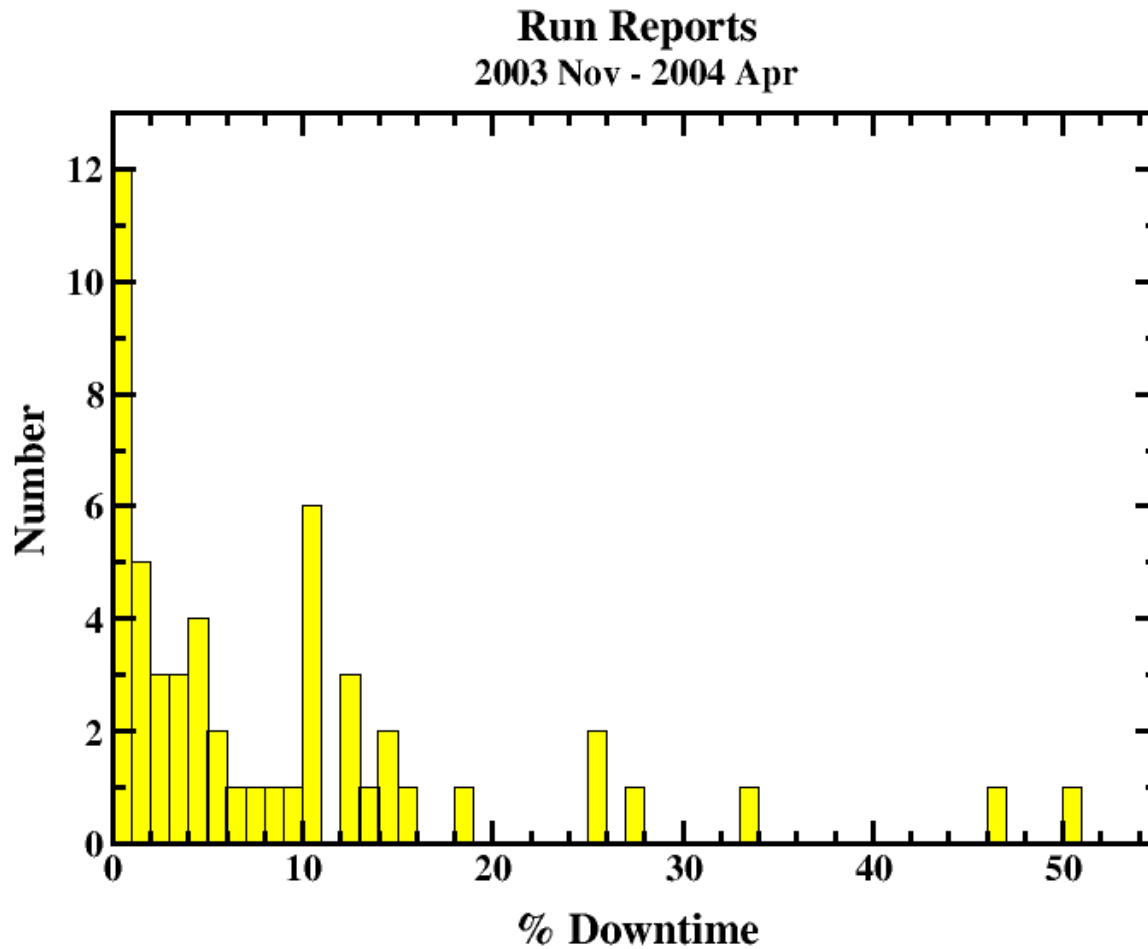
May 2001 through Apr 2004

	May 01- Oct 01	Nov 01- Apr 02	May 02-Oct	Nov 02- Apr 03	May 03-Oct	Nov 03- Apr 04
% Open	--	--	76.6	89.2	81.3	93.1
% Lost to Weather	--	--	13.6	4.3	16.1	4.3
% Lost to Telescope	--	--	7.5	4.4	2.1	1.6
% Lost to Instrument	--	--	1.5	1.9	0.4	0.8
% Lost to Computer	--	--	0.9	0.2	0.1	0.1
% Total Downtime	--	--	9.9	6.5	2.6	2.5

# % Downtime: Nightly Reports vs. Run Reports



# % Downtime According to Run Reports



Median = 4%

Average = 8%

# Most Common Problems

- TV cameras [As soon as we can switch on-chip amplifiers and retain proper guider command control, this will be much less of a problem.]
- Guiders [air cylinder issues, IMS module problems]
- Primary mirror support (mirror panics, faulty actuators) [Big campaign planned soon to seal air cylinders in actuators.]
- Rotators [Remaining reliability and tracking issues]

# Software Priorities

- M3 turret ADC control for Baade telescope
- Rotator guiding [vital for optimal use of IMACS]
- M3 turret control for Clay telescope [software implementation of detent system]
- Guide probe control (non-Sideral tracking, MIRAC guiding) [continuing problem at slowest speeds – step mode works on some probes, but not others]
- Guide camera software additions (guiding on star in slit, ability to switch between on-chip amplifiers)

# Coming Attractions

- ADC installation and commissioning
- IMACS: Implementation and testing of echellette and MMTF modes. Further commissioning of IFU modes.
- MIKE blue CCD upgrade
- MagIC control system upgrade and final commissioning
- MIKE fibers continuing commissioning
- Begin work on LDSS upgrade?
- Installation of MASS/DIMM in seeing tower
- Initial data taking for possible GLAO installation