

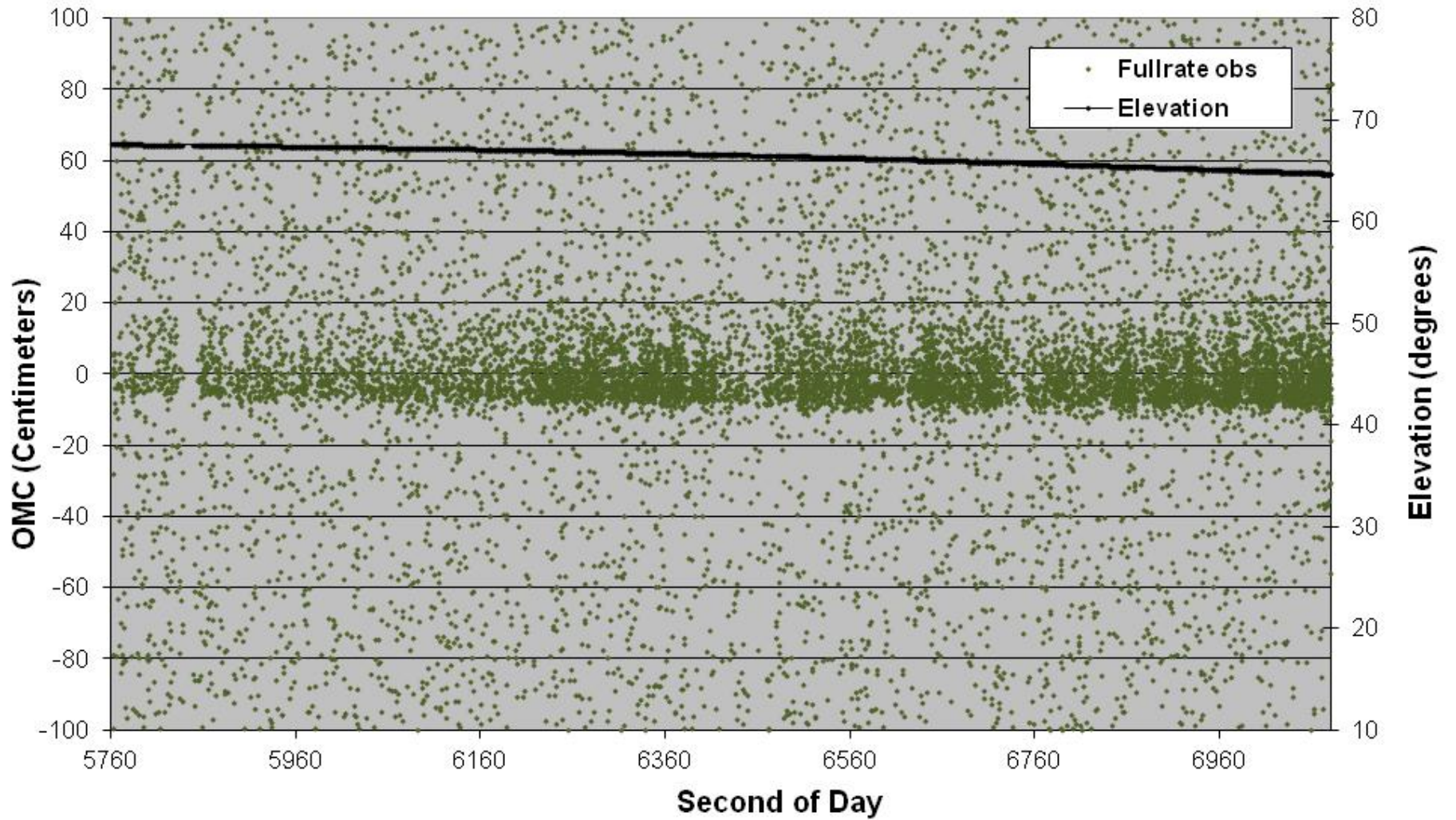
NGSLR EXPERIENCE WITH GNSS RANGING: McGarry

- Had been extremely difficult with eyes-afe laser energies: had to be above 60 degrees elevation at night, and even then wasn't guaranteed.
- With NASA 1 mJ laser and Hamamatsu 40% QE detector it has been much easier:
 - Several passes tracked during daylight
 - Have ranged down to 40 degrees elevation
 - Night time is much easier to acquire than with eye-safe laser
- Caveat right now:
 - Need recent starcal to make acquisition possible
 - Acquisition during daylight is harder than night
- New GLONASS satellites are the easiest to acquire.
- Return rate at NSGLR not where it should be. We are investigating but believe good part of this is the pointing error (and we are working this).
- With 3x more energy from the new PI laser and gains from work done above, we should be getting > 1% return rate (rather than our current 0.1%).

NGSLR GNSS (& ETALON) RANGING APRIL– JUNE 2012

Satellite	SIC	DOY	HH:MM	#obs	RR%	#NPTS	# segs
ETALON-2	4146	094	02:15	5374	0.2	8	3
ETALON-2	4146	102	01:55	3026	0.1	6	3
ETALON-2	4146	147	02:55	759	0.1	2	1
Galileo-101	7101	090	01:36	8010	0.3	5	1
Galileo-102	7102	097	00:34	573	<0.1	3	1
Galileo-102	7102	168	00:44	1210	<0.1	5	1
GLONASS-109	9109	093	23:00 DAY	4644	0.1	12	1
GLONASS-115	9115	094	18:15 DAY	778	0.1	3	1
GLONASS-122	9122	090	02:08	11181	0.8	12	1
GLONASS-122	9122	152	01:55	2293	0.1	6	1
GLONASS-122	9122	153	00:16	589	<0.1	4	1
GLONASS-123	9123	108	02:40	2568	0.1	4	1
GLONASS-123	9123	139	01:35	1046	0.1	4	1
GLONASS-123	9123	147	02:14	409	0.1	4	2
GLONASS-123	9123	150	18:27 DAY	3767	0.1	9	1

Galileo-101 d090 01:36 2012



Glonass-109 d093 23:00 2012

