BigBOSS QSO Pilot Survey

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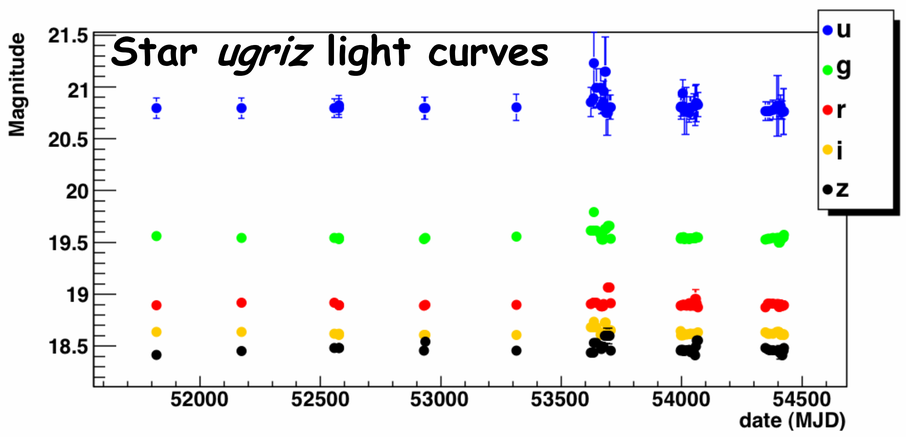
Goal: Detect "all" QSOs down to g~23 to determine QSO number density with a two-telescope pilot survey

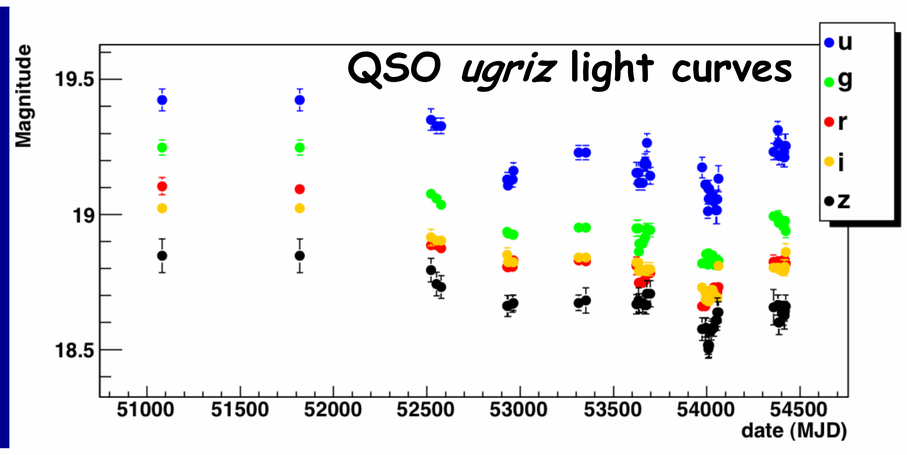
BOSS: 7 half-plates in Stripe 82
14.6 deg^2 down to g~22.5

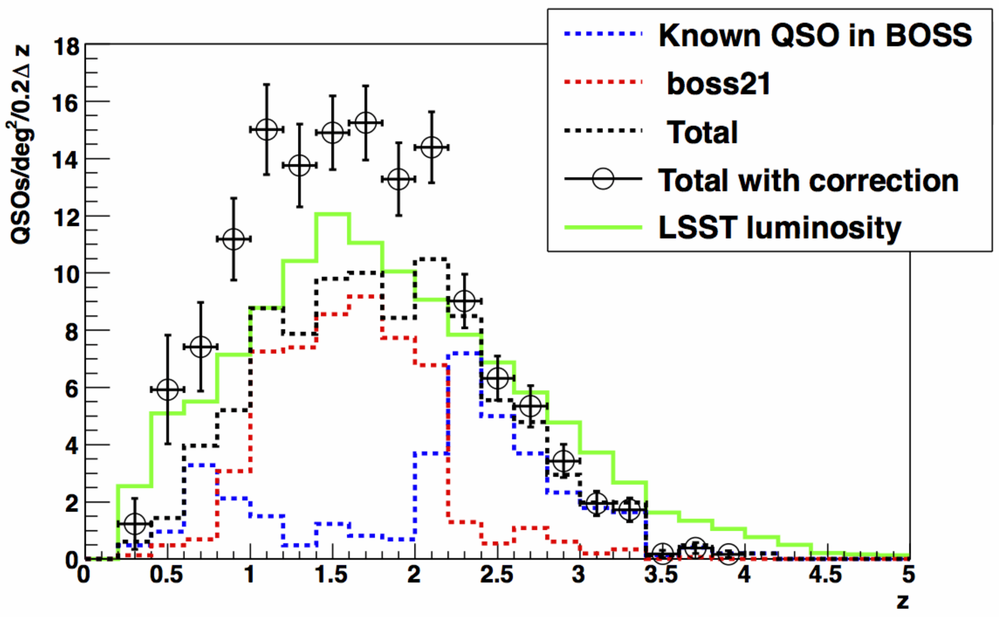
MMT: 6 fields included in BOSS plates
4.7 deg^2 for 22<g<23.3



Selection:

- Based on QSO variability in light curves with ~70 observations over 7-9 years
- Light curve χ^2 and "structure function" combined with Artificial Neural Network





QSO number counts for g<22:

- 10-20% excess at z~1.5 with respect to optimistic luminosity functions from litterature
- Small deficit at z>3

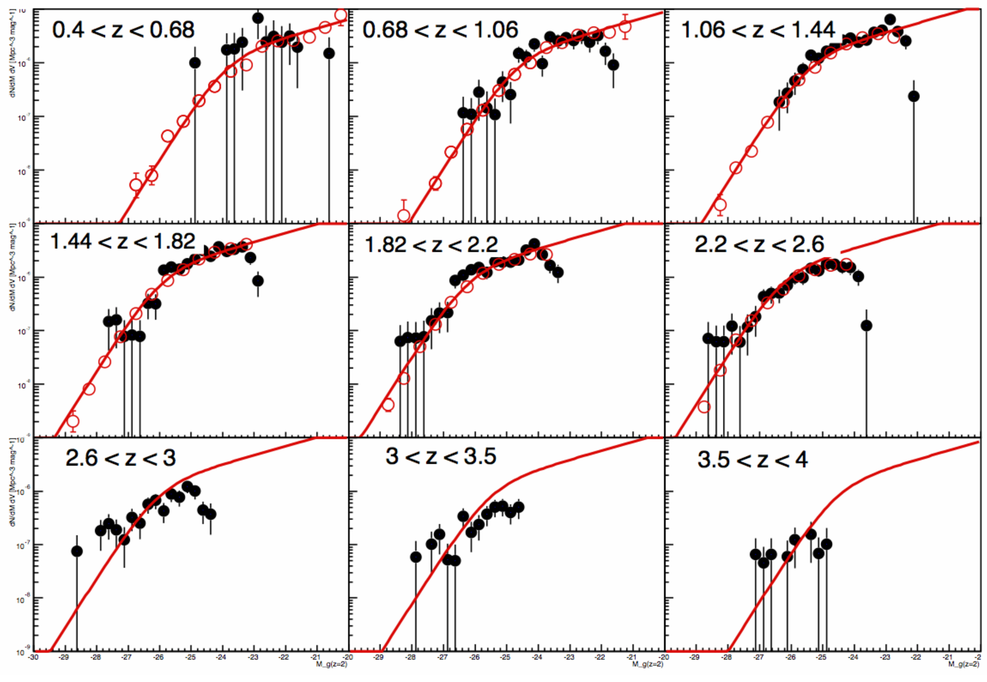
g<22	1.0<z<2.2	z>2.2
Expected (deg^{-2})	65	39
Measured (deg^{-2})	70 ± 3	34 ± 2

QSO Luminosity function:

- Good agreement with QLF from Croom et al. 2009
- Validation of the hypotheses used in the extrapolation of the number of target for BigBOSS

QSO Target Selection for BigBOSS (g<23):

g<23	Tracers 1.0<z<2.2	Ly-α z>2.2
Completeness	91%	88%
Expected (deg^{-2})	110	75



● boss21 g<22.5

— Croom et al. 2009

○ SDSS-II 2SLAQ

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