MagE: Magellan Echellette

Specifications/Goals

1. Broad wavelength coverage (3200 Å– 10000 Å) optimized for the UV ($\lambda < 4000$ Å)

2. Moderate resolution $R = \lambda/\Delta\lambda = 4500$, with 1” slit width

3. Minimum slit length of 10”

4. High spectrograph efficiency, 42% at blaze peak, 30% including telescope

Echellette Throughput Estimates

λ (Å)	2x Refl Enh. Silv	Transm. Elemen	CCD (EBBC)	Grating Peak*	Obscuration	Total
9900	0.90	0.9	0.10	0.7	0.85	0.05
9000	0.90	0.9	0.30	0.7	0.85	0.14
8000	0.95	0.9	0.60	0.7	0.85	0.31
7000	0.94	0.9	0.75	0.7	0.85	0.38
6000	0.93	0.9	0.80	0.7	0.85	0.41
5000	0.93	0.9	0.85	0.7	0.85	0.42
3200	0.94	0.8	0.55	0.7	0.85	0.25
3100	0.91	0.7	0.50	0.7	0.85	0.20

*About 30% grating efficiency at edge of FSR