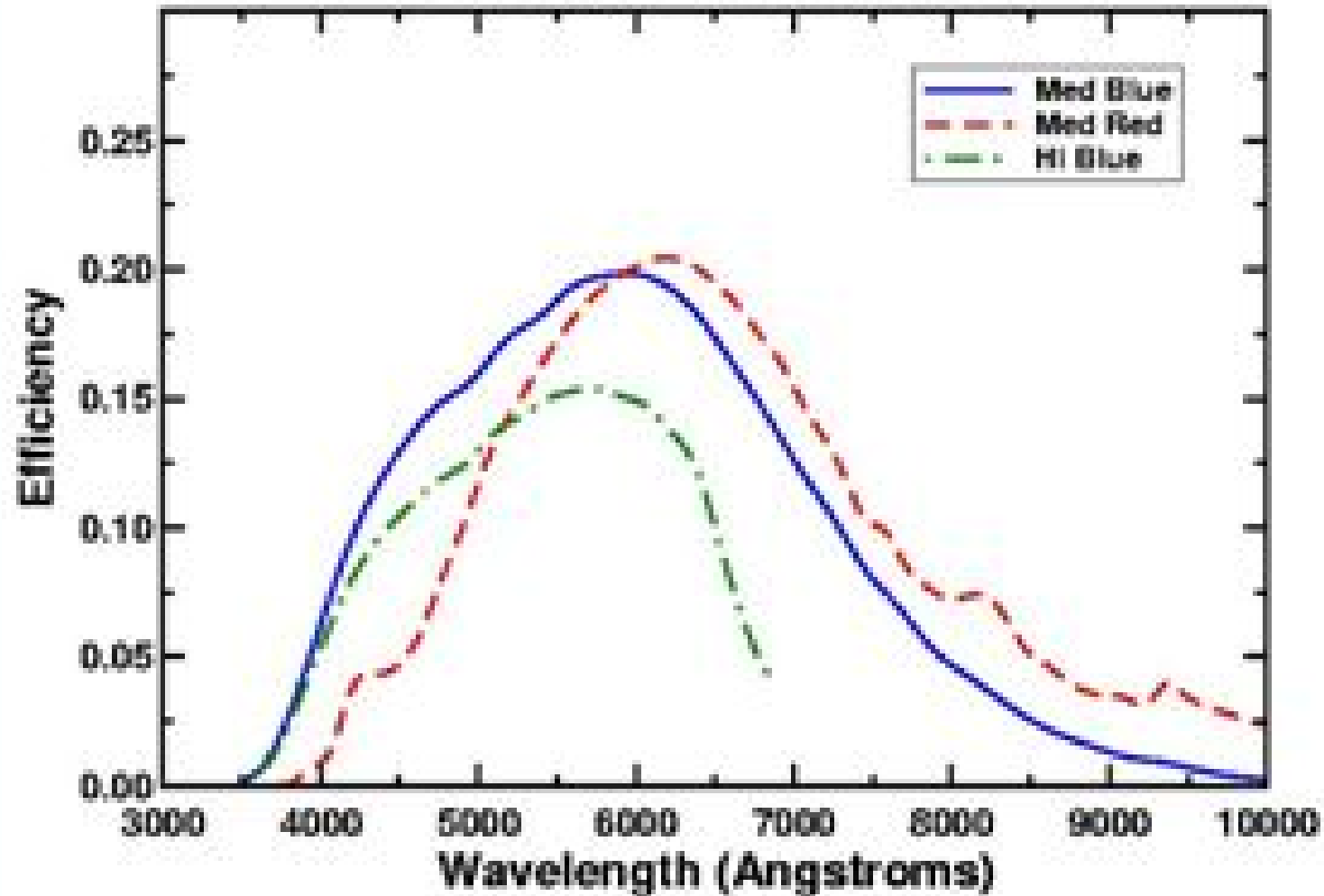


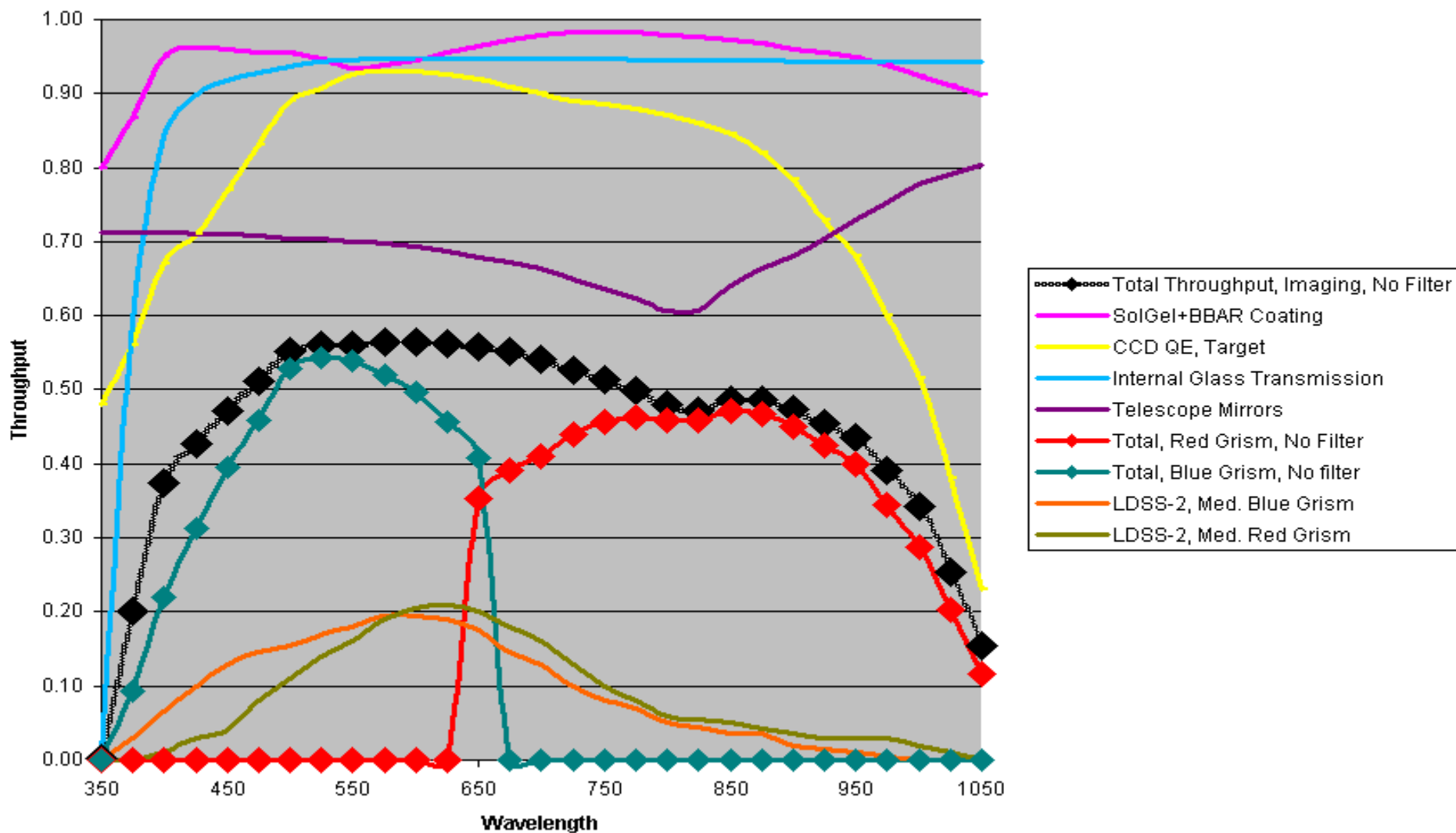
The Low-Dispersion Survey Spectrograph-2 Upgrade Project

LDSS-2 Throughput Measurements



Includes no atmosphere or slit losses

Throughput



The LDSS-2 Red Upgrade

1. Replace all optics, while keeping as much of mechanical structure as possible.

All optics bonded and 1st stage coated and currently being fitted into mounts.

Should ship to Cleveland Crystals for final solgel mid-October.

Expect delivery in mid/late November.

The LDSS-2 Red Upgrade

1. Replace grisms with new volume-phase-holographic (VPH) grisms, giving higher dispersion and better throughput.

Prisms due mid-October. Mounts designed and being fabricated at OCIW now.

Expected delivery: November

The LDSS-2 Red Upgrade

3. Replace imaging and spectroscopic filters.

Sloan filter set already delivered.

Quote for Johnson filter set - \$5,000

Obtaining quotes for spectroscopic filters

The LDSS-2 Red Upgrade

4. Acquire a new detector with emphasis on red sensitivity. New 4kx4k single chip + 4 amplifier, 15 micron device from Arizona (Mike Lesser)

Not much progress.

Other Upgrades

-encoders on all 3 wheels to be replaced

-new interface software to handle new encoders and detector

Summary

New optics, gratings and filters should be ready for use by late 2004/early 2005.

New detector hopefully sometime in 2005.