

PI Tool  
Data Definition

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1) Input data

- Input spectrum library, for each spectrum type (Kurucz, power law, emission line ..)
- Sky spectrum, for each sky brightness (3? dark, grey, bright)
- Table of seeing values (3? good, median, poor)

2) Detector

- CCD efficiency vs wavelength for each chip
- CCD readout noise vs speed
- CCD readout time as a function of window, binning, speed, etc (formula)

3) System Throughput

- Throughput vs wavelength for fixed lenses + fold flat
- Slit throughput vs slit width, seeing, (and wavelength?) (table or fitted formula)
- Throughput of each filter vs wavelength

4) Gratings

- Table of default order separator filter for each grating/ camera angle
- Table of default grating angle as a function of camera angle
- Grating efficiency for each grating as a function of wavelength, grating angle, and off-axis angle:
  - a) SR grating. One table. (probably not a significant function of grating angle and off-axis angle)
  - b) 900 line. Interpolated 3-D table.
  - c) other VPH. Might get away with Kogelnik formula, reduced by a constant peak efficiency value

5) Fabry-Perot (RU should define this)

- Etalon/ filter throughput for each configuration as a function of wavelength
- Etalon free spectral range

6) Polarimetry

- Number of waveplate stations for each mode
- Beamsplitter, half and quarter waveplate throughput vs wavelength
- Linear and circular polarimetric efficiency vs wavelength