The Measuring System of Near Infrared Fabry-Perot Etalon

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Fabry-Perot Etalon has many advantages in measuring the solar magnetic field, such as narrow passband, high throughput, easy wavelength tenability, larger clear aperture, realizing the Stokes outline scanning, measuring magnetic field, etc. So, we select a Near Infrared Fabry-Perot Etalon for our Infrared Solar magnetic telescope. It track the real-time image of solar magnetic field in the high chromosphere and in the photosphere, by the spectral lines on 10830.3 Å and 15648.5 Å respectively. At present, the application of Fabry-Perot Etalon in the observation of solar magnetic field is still an issue of international difficulty and is very scarce in china. Therefore, we studied the testing methods of the Fabry-Perot Etalon, and according to its properties we developed a highly precise testing system to evaluate its performance. The measurable projects include the parameter according to different wavelength and parallelism, the precise bandpass, effective finesse, peak transmission, free spectral range, stability, etc.