

# "Fabry-Perot Tunable Imaging Filters in Solar Astrophysics"

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Abstract: Fabry-Perot etalon tunable spectroscopic imaging filters are unmatched in their simultaneous narrow spectral response, high throughput, rapid tuning and in their ability to provide 2D spectral imaging without spatial scanning. These narrowband imaging interferometers play an important role in contemporary solar astrophysics. Combined with modern adaptive optics systems they allow observation of the evolution of solar active regions over multiple layers of the solar atmosphere with high spatial, spectral, and temporal resolution. The devices do, however, present some challenges both in terms of their operational characteristics and their manufacturability. In this seminar we will review the operational principles of Fabry-Perot etalons, discuss the state-of-the-art in the fabrication of these challenging optics, and examine the peculiarities in their spectral imaging characteristics and the effects on observational data.