

Lithium Niobate Fabry-Pérot Interferometer: Roadmap for Development

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Tunable filters are an integral part of the astronomical instrumentation for the so-called imaging spectroscopy, spectral imaging or hyperspectral imaging applications. Fabry-Pérot Interferometers (FPI) have long been used as tunable filters due to their salient advantages such as high transmission, wide wavelength range of operation and high-speed tuning. Solar astronomers are in favour of two flavours of FPIs: piezo-tunable airgap FPIs and electro-optic solid FPIs. The latter were typically constructed with Lithium Niobate, a synthetic electro-optic crystal, and to our knowledge, they are no longer produced for optical interferometric applications. We, at TLS Tautenburg, in cooperation with IOF Jena, aim to revive its development with better specifications, especially larger aperture for large field of view applications like full solar disc observations.