

Design Optimization Considerations for the MROI

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Abstract. The Magdalena Ridge Observatory Interferometer (MROI) has been conceived to be a 10 element 1.4m aperture imaging interferometer working in the optical and near-infrared and located at a altitude of 10,500 feet in the mountains of south-central New Mexico. When designing the MROI, we attempted to take lessons learned from the design of other similar facilities and specifically considered sensitivity, speed of data collection, scalability and mobility of the design, along with polarization preservation and imaging capabilities to attain the present model for the facility. Several papers detailing the specifics of the design of the MROI and the philosophy behind the certain choices or trade-offs have been published in the past few years. These references and those listed therein are listed below.

References

- Buscher, D. F. et al., 2013, “The Conceptual Design of the Magdalena Ridge Observatory Interferometer”, *Journal of Astronomical Instrumentation*, 2, 2, 1340001.
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- Santoro, F. G., et al., 2012, “Final mechanical and opto-mechanical design of the Magdalena Ridge Observatory Interferometer”, in *Proc. of SPIE, Optical and Infrared Interferometry III*, 8445, 8445E.