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Design and Characterization of 3d Printed Optical Assemblies
DONALD CUTRER, JR. , Dept. of Mechanical Engineering, Youngstown State University, ELAINIE HUNCIK, MICHAEL CRESCIMANNO, Dept. of Physics and Astronomy, Youngstown State University — Additive manufacturing (AM), has only recently been of utility for optical assemblies since cheaply available print matricies (usually plastics) are mechanically and thermally inferior to commercially available metal assemblies. We explore the design space for 3d printing of optical assemblies including mounts and Fabry-Perot cavities and have mechanically, thermally and optically characterized these assemblies. This work suggests new opportunities for AM of optical assemblies and provides public access (via thingverse) to verified designs.

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