Abstract Submitted
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A Specialized IR Endoscope for High Resolution Views in the W7-X Stellarator[1] GLEN WURDEN, Los Alamos National Laboratory, MARCIN JAKUBOWSKI, JUERGEN BALDZUHN, Max Planck Inst. for Plasma Physics, Greifswald — As part of the US/German collaboration on W7-X, we report on the design and preparation of a relay lens-based endoscope for infrared observations of the W7-X limiter and divertor components, during early operation. We plan a 100 degree field of view which can be steered with a stainless turning mirror, directed towards either a graphite limiter in OP1.1, or a test divertor unit with scraper element in OP1.2. Optical access is obtained using a water-cooled, shutter-protected, reentrant viewing tube, which can be mounted in several possible diagnostic ports. It will contain 2.2 meter long borescope optics working at f/4 in the 3-5 micron wavelength band. Software for real-time acquisition and analysis written in Matlab with multi-core GPU image processing will also be discussed.

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