

LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY
- LIGO -
CALIFORNIA INSTITUTE OF TECHNOLOGY
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Engineering Note	LIGO-E1500467-v1	2015/12/16
VOPO - Viewports		
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Executive summary

We list the viewports required for one aLIGO squeezer. Squeezer viewports may be installed at LLO during the post-O1 vent. Requirements are subject to change.

1 Overview

Following O1, the LLO vertex will be vented to allow the output Faraday isolator to be replaced. At this time we plan to install additional components which will permit frequency independent squeezed light to be injected, should we choose to do so. Specifically, we plan to install a window in the HAM6 septum and a Tip-Tilt suspension in HAM5.

As testing the septum window will require dedicated equipment to be assembled, observatory staff requested that all squeezer viewports/windows be tested at this time, even if they are not immediately necessary.

2 The viewports

The windows and viewport assemblies required are listed in Table 1. The exact status of the required equipment must be verified by on-site personnel.

Table 1: Viewports required for one aLIGO squeezer. DCC and ICS links are provided.

Chamber	Flange	Purpose	Type	Viewport	Assembly
HAM6 septum	VP1	Squeezed light to OFI/Filter cavity	Wedged AR1064/AR1064	D1101005 , d1101005	D1101092 , d1101092
HAM6	A1F5	CLF and 532 refl OPO beams to in-air squeezer table	AR532,AR1064/AR532,AR1064	D1101006-1 , d1101006	D1100999 , d1100999
HAM6	A1F4	Squeezed light to in-air squeezer table	AR532,AR1064/AR532,AR1064	D1101006-1 , d1101006	D1100999 , d1100999
HAM5	TBD	Filter cavity trans/refl	AR532,AR1064/AR532,AR1064	D1101006-1 , d1101006	D1100999 , d1100999
HAM4	TBD	Filter cavity trans/refl	AR532,AR1064/AR532,AR1064	D1101006-1 , d1101006	D1100999 , d1100999