



Measuring Trans/Refl of 1" 1064nm 50:50 beamsplitter w/ 532nm light

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1. Introduction

Alignment work on the ALS-EY table was required during pre-Half-IFO commissioning. The desire was to perform alignment work with the Green (532nm) laser. Since there are optics coated for 1064nm light, we wanted to check characteristics of some of the 1064nm optics with 532nm light.

2. Set up

This document covers reflectivity/transmissivity measurements made in the lab with a 1064nm 50:50 beam splitter (E1000671) & a 532nm fiber couple laser. Below is the set up for the measurement.

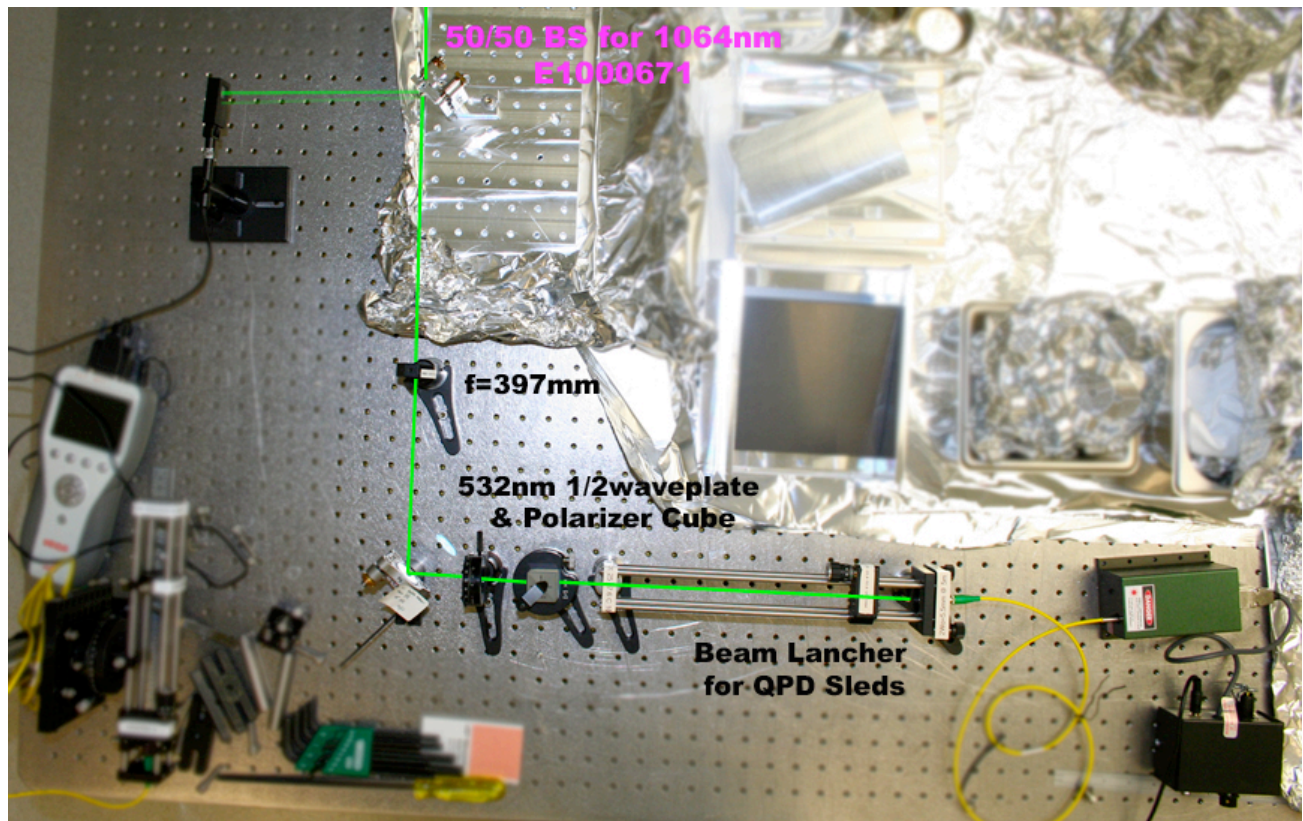


Figure 1 Set-up for beam splitter measurement

For this set up, we had two reflected spots: a faint front surface beam and higher power back surface beam (most light is transmitted).



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Items Used:

- 532nm Fiber-coupled Laser
- Fiber Beam Launcher (used for QPD Sled work)
- Polarizing Beam Splitter Cube, 532nm
- 1/2 Wave Plate, 532nm
- Steering Mirror, 532nm
- F= 397mm Lens, 532nm
- 50:50 Beam Splitter, 1064nm
- Ophir Power Meter (with Filter Removed)

3. Measurements

Below are the results of our measurements (polarization varied via 1/2-wave plate).

	P-pol	S-pol
50-50 IR surface reflection	0.92%	0.044%
AR surface reflection	6.3%	20.7%
Transmission	92%	79%