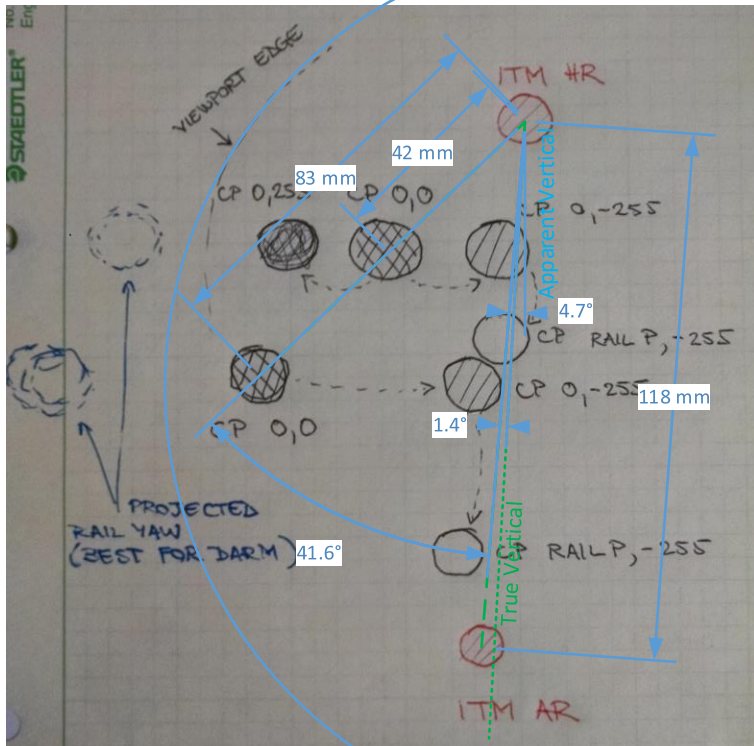


Detector Image: Incoherent Irradiance

D0901920-v4, Advanced LIGO, H1 Layout
9/28/2016
Detector 769, NSCG Surface 1: ITMy OptLev Port Detector
Size 200.000 W X 200.000 H Millimeters, Pixels 200
Peak Irradiance : 2.8384E+001 Watts/cm²
Total Power : 9.8599E-001 Watts Database:D09022

7.8" Clear Aperture of Viewport



Separation distance between ITM-HR and ITM-AR spots is defined by the ITM vertical wedge angle: 118 mm measured vs 123 mm Zemax

Angle between vertical and the line between ITM-HR and ITM-AR should be defined by the yaw angle of incidence of the OptLev beam to the ITM -- should be equal to Zemax calculation -- used to correct the orientation of vertical on the paper target (~3 deg).

Angle between the 'ITM line' (line joining ITM-HR and ITM-AR spots) and the 'CP line' (line joining the 1st & 2nd CP surface reflections) is defined by the relative yaw angle between the ITM and the CP (i.e. the CP yaw error).

The separation distance between the ITM-HR spot and the CP 1st and 2nd surface reflections is defined by the CPy pitch error.

Using Zemax to fit to the spot measurement diagram (solution couples yaw and pitch):

CPy yaw error = 384 microrad

CPy pitch error = 1380 microrad