Hodoscope

The need for this detector arose after the analysis of HPS 2015 and 2016 data.

1. It turned out that most of Top <-> Bottom cluster pairs from the "pair1" trigger, are the so called Wide Angle Bremsstrahlung (WAB)
2. There are significant number of events where electron from the pair, travels through the ECal hole, and hence missing detection.
    - At high Esum region, these events are almost equal to the number of events, where the pair electron hit's the ECal.
    - Hence recovering these events, will almost double the statistics at high ESum region.

e- gamma events, vs e-e+ events	**Trident events, when the electron hit the ECal, and when e- traveled through the ECal hole, and escaped the detection**
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The hodoscope will be placed between the SVT vacuum chamber and the ECal.

One end of Support arms of the hodoscope are fixed to the 50 mm thick flange (yellow in the picture below), and other end holds tiles.

During the installation the SVT and the SVT vacuum flange will stay at the same position, while the ECal will be moved downstream by 50 mm,

in order to allow hodoscope flange to be installed.

The scintillation light will be transferred from the tiles, of the hodo to the PMT through the Wavelength Shifting Fibers Kuraray Y11.

The Engineering design of the Hodoscope
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