The Fairly Clean Room
Spartan IR Camera for the SOAR Telescope

Owen Loh & Edwin D. Loh

Department of Physics & Astronomy
Michigan State University, East Lansing, MI 48824

Loh@msu.edu 517 355–9200 x2480

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The fairly clean room reduces the dust falling on the instrument while it is open. Tasks that are done in the clean room are installation of the optics in the cryo-optical box (COB), installtion of the multilayer insulation around the COB, and installtion of the COB in the vacuum enclosure.

Figure 1: Clean room. The ante room is at the left. The filter-fan module is at the right. The rail (black) for the hoist is above.

The fairly clean room is a made of 2×4 in lumber covered on the inside by 6-mil (0.15-mm) plastic film. A door in the ceiling opens to allow the hoist to move in or out.

The entrance is made of strips of plastic. There is an ante room, which buffers the clean room and the outside.

The room is large enough for a person to move around the instrument. It is high enough for the crane hook to lift the jig for rotating the COB. The inside dimensions are 90 in (229 cm) wide, 64 in (163 cm) deep, and 90 in (229 cm) high.

A MAX9000 fan and filter module, made by Liberty Industries (liberty-ind.com) of E. Berlin, CT, draws air into the clean room. The module was salvaged from a clean room; its specifications are not available. The specification of the Liberty MAX8000 fan and filter module, which looks similar to the MAX9000, is available on the web. A pleated furnace filter filters the air before it enters the MAX9000 unit.

A table is used to put the cryogenic-optical box (COB) at a convenient height. The table is 39 in (100 cm) wide, 36 in (92 cm) deep, and 24 in (61 cm) high. The table is made of rough lumber and covered with plastic sheet.

Three coffee cans (16 cm diameter and 16 cm high) raise the COB to make bolts on the bottom accessible.