

NPS DESIGN

3D printed plastic pieces for NPS prototype.



1. The left square with round holes is the PMT holder.
2. three same type U-shaped pieces are crystal holders.
3. And the most right piece is a Crystal Face Holder, in X and Y directions it is slightly (~100-150microns) smaller than the crystal face.

NPS prototype with this pieces printed with 3D printer is already designed and built (in 2015) .



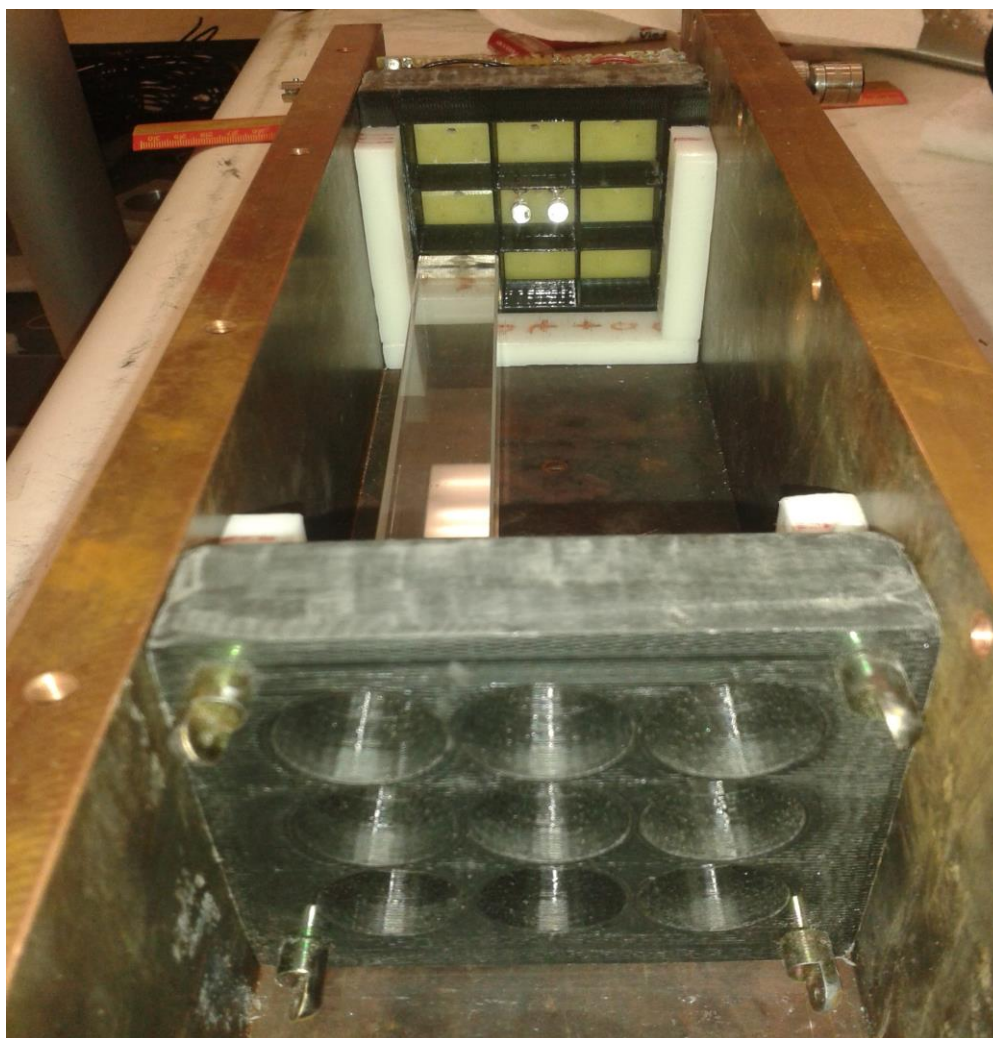
The side bolts are designed to attach the holders to the prototype Copper box, to have a fixed crystal and PMT holders.

The other 4 holders on top of right side piece are designed to attach springs, which will push PMTs towards crystals



PMTs with holder and springs.

This part can be done for EACH PMT individually, or with a PMT groups (2x2, 3x3, ... 9x9 ...)



View for 1 crystal and all pieces installed in Prototype box.

(actually for now the Prototype is installed with 3x3 crystals and PMTs and have much nicer look, and I didn't want to open it to take the final pics)

Summary

1. It has very easy/user-friendly TO-GO parts for the whole detector
2. The one we have is for only 3x3 crystal matrix, already used and tested in Prototype
3. PMT holder and spring part can be made for each PMT, or for PMT groups (2x2, 3x3, ..., 6x6, ...)
4. We already prepared a new crystal face-holder for 9x9
5. After it is printed we are planning to check the hardness and other related stuff