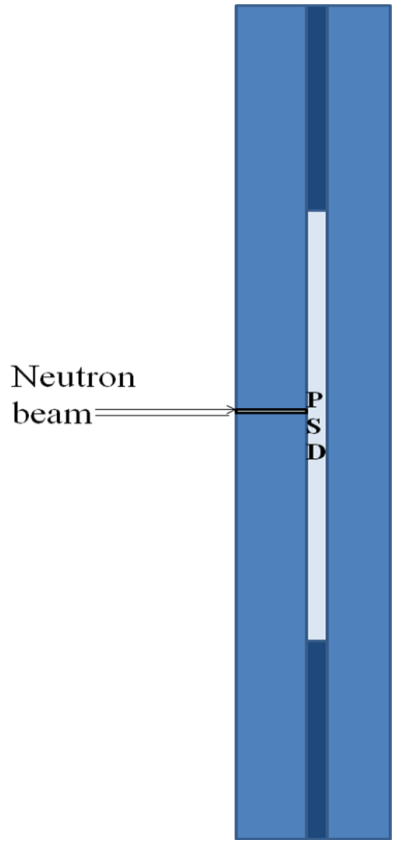
**MULTIPURPOSE TEST FACILITY at port G1, Guide Tube Laboratory, Dhruva**

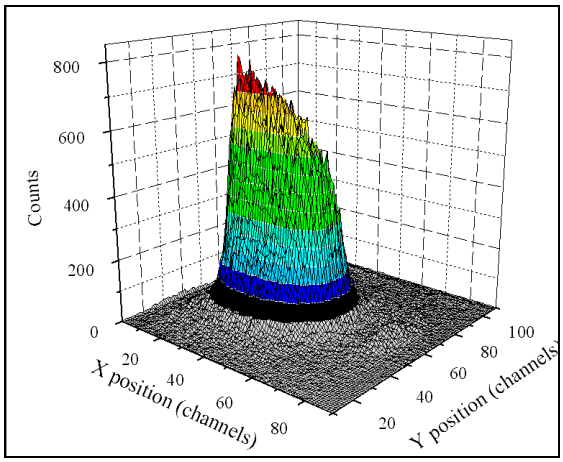
**Various neutron detectors developed at SSPD are tested at this multipurpose test facility**

**Shielding and collimator for 1D PSD**

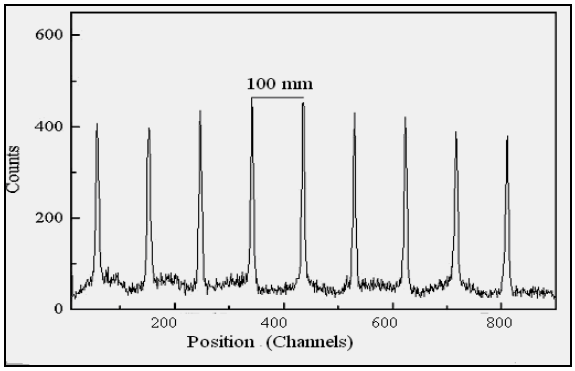



**Neutron beam images using 2D imaging monitor based on delay line**

**Beam image at beam port G1 Dhruva**



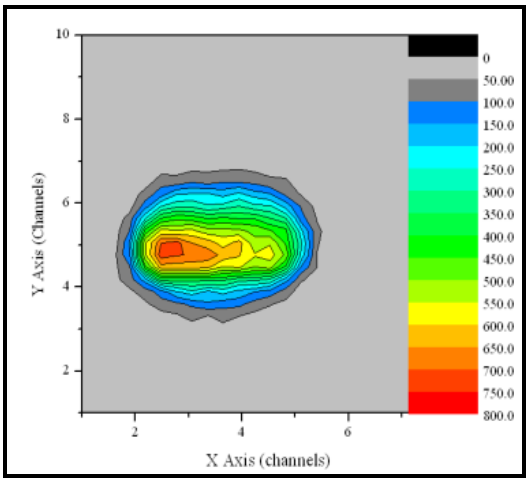

**Slit -1 with slit diameter 3 cm**




**Position spectrum of a $^{3}$He PSD with slit-3 and 10 cm spacing**

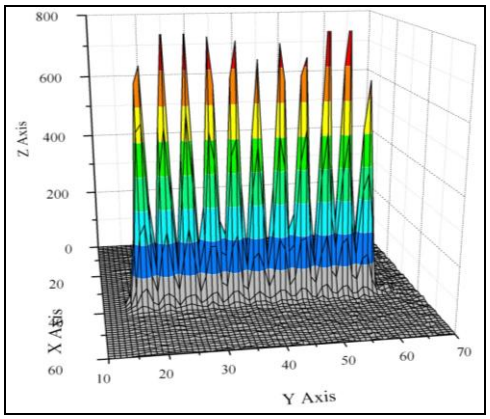
**Table 1.** Details of neutron beam at beam port G1

| S no | Beam | Dimensions |
|---|---|---|
| 1 | Open beam | 3 cm x 8 cm |
| 2 | Slit -1 | 3 cm ϕ |
| 3 | Slit -2 | 3 mm x 30 mm |
| 4 | Slit -3 | 2 mm ϕ |
| 5 | Wavelength | >5.2 Å |
| 6 | Neutron Flux | 2 x $10^{6}$ n/cm$^{2}$/sec |
| 7 | Gamma flux | Open beam 1 R<br>With Pb filter 300 mR |

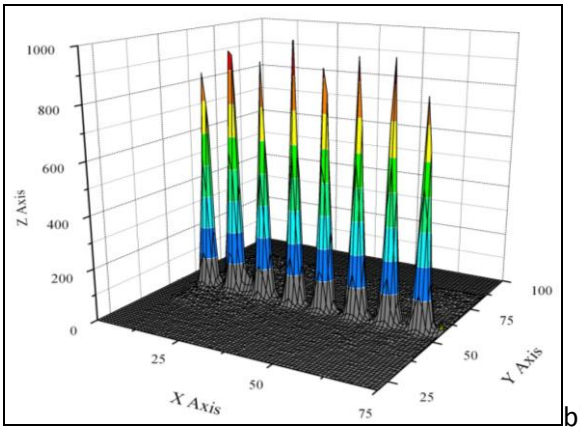



**Slit -2 (3 mm x 30 mm)**

**Linearity scan using slit-3**



a)



b)

a) 4 mm and b) 8 mm displacement in Y - direction

**Utilization of Beam for other divisions of BARC**

- Laser & Plasma Technology Division : Neutron absorption measurements in natural boron carbide coatings deposited using RF plasma enhanced CVD method
- Technical Physics Division : Neutron scintillator detector based on $Li_6Y(BO_3)_3$:Ce single crystals
- Technical Physics Division : Imaging with in-house built CCD based neutron camera
- Electronics Division: Tests of $^{10}B$ coated semiconductor based PIN detector
- Radiological Physics and Advisory Division: Tests of Neutron Energy Measurement Spectrometer
- Reactor Operations Division : Tests of neutron detector from Bulk-DN-Loop-1
- Neutron and X ray Physics Division : Neutron Imaging using image plate and neutron scintillation camera