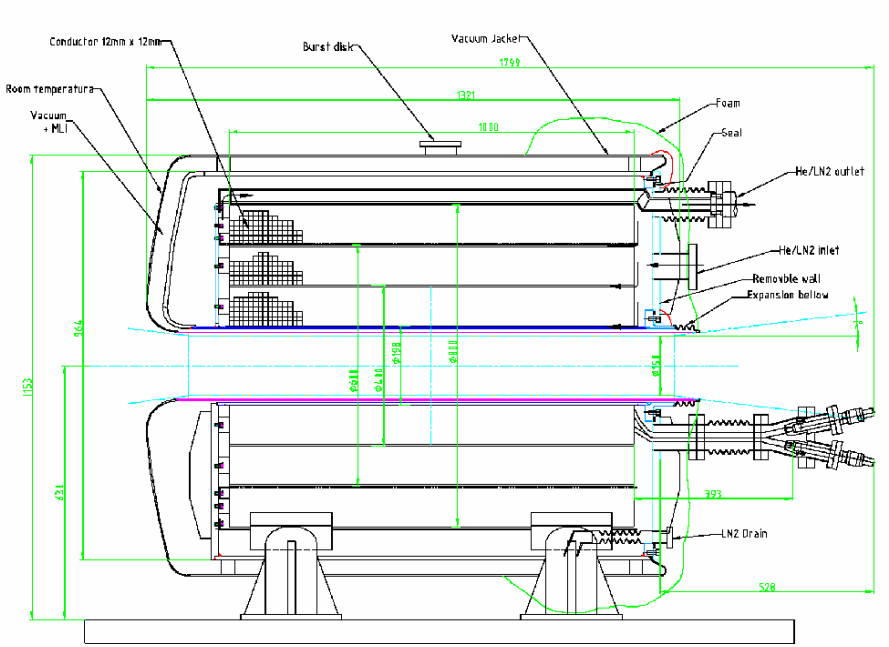
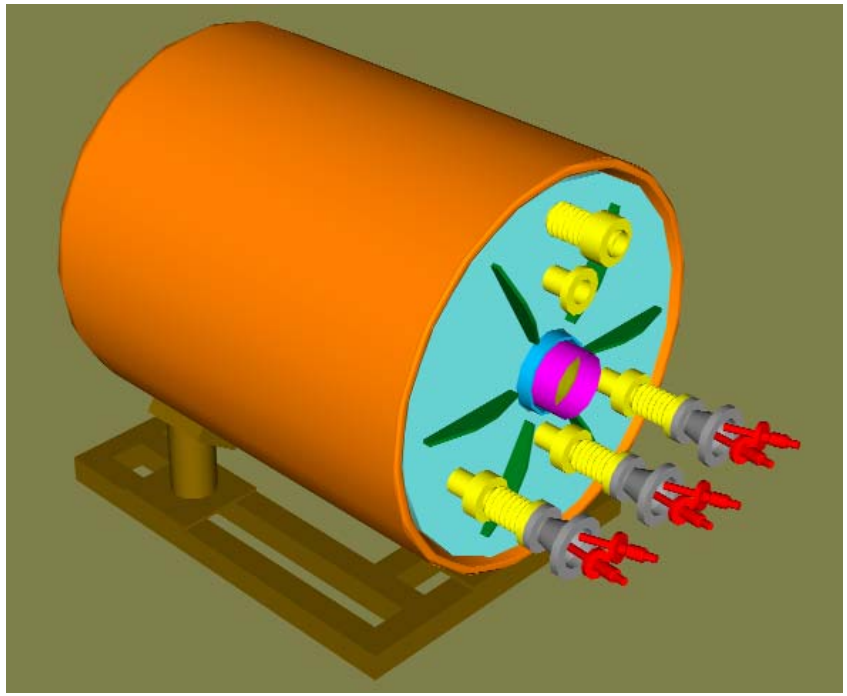
Dose Calculations for the TT2A Expt.





- 70^{o} K Operation
- 15 T with 4.5 MW Pulsed Power
- 15 cm warm bore
- 1 m long beam pipe

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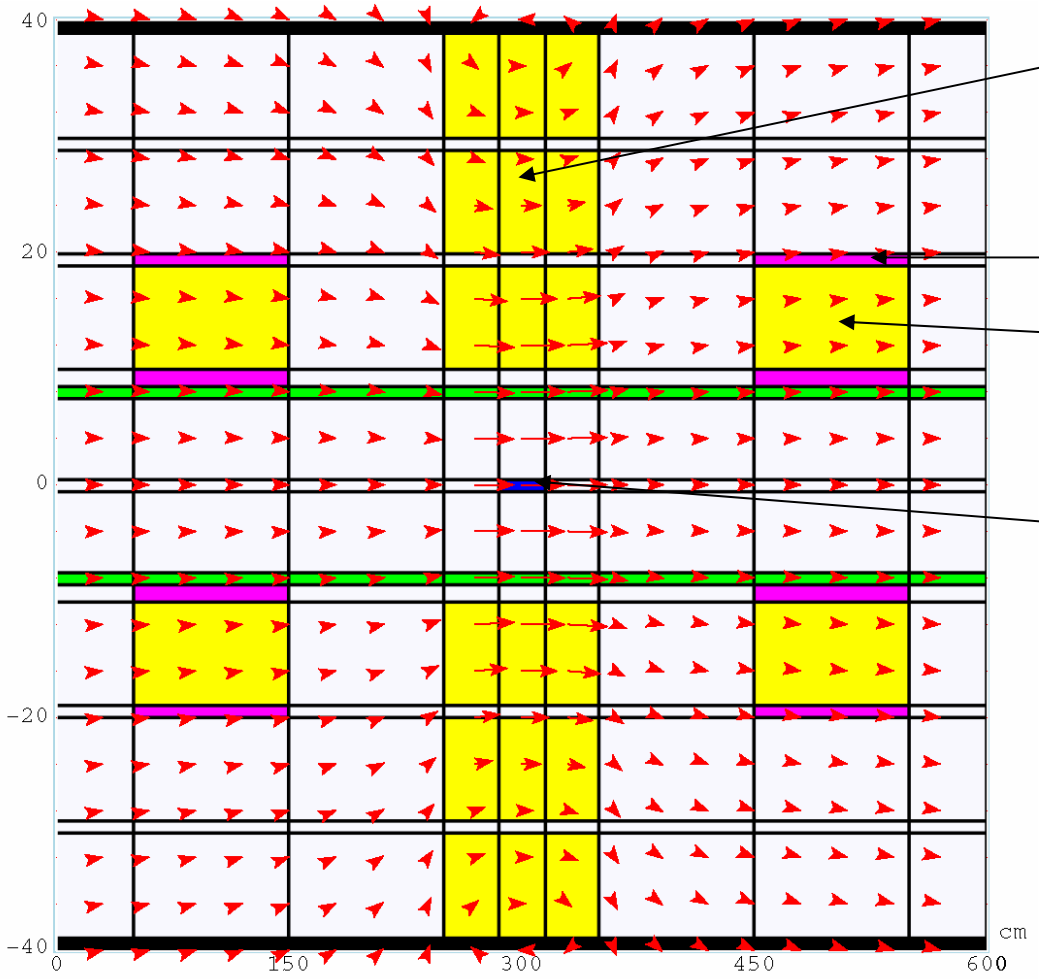
MARS Dose Calculation



Residual Contact Dose Rate

Assume:

- 200 pulses
- 16 x 10^{12} protons/pulse average
- 30 days running

Then the contact radiation on the iron exterior will be:

After 1 hr 40 mrad/hr

After 1 day 21 mrad/hr

After 1 week 13 mrad/hr

After 1 mo. 5 mrad/hr

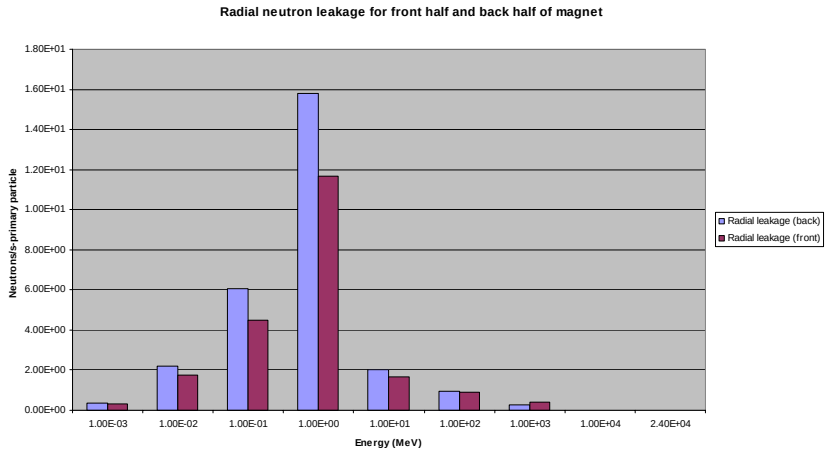
After 1 year 1 mrad/hr

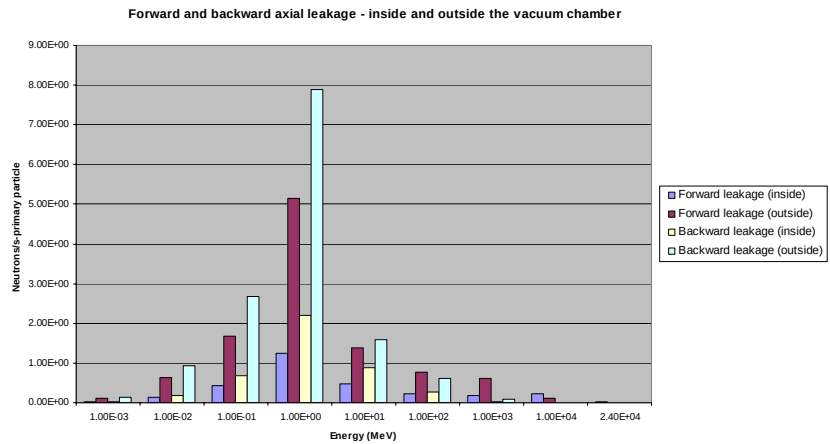
Neutron Production

Neutron flux escaping radially at r=0.6 m
Is 10^{-3} n/cm^2 for each incoming proton.

Neutron flux escaping forward is
1.2×10^{-3} n/cm^2 for each incoming proton.

Neutron flux escaping backwards is
1.6×10^{-3} n/cm^2 for each incoming proton.





Harold G. Kirk