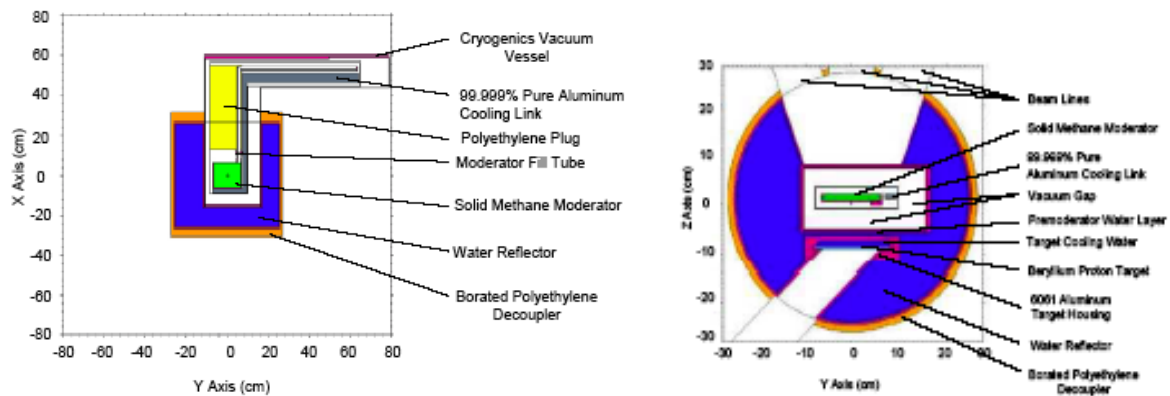


[LENS Target]

(Chapter 2.1.3 in *Elements*)

The LENS target-moderator assembly

The Indiana University Low-Energy Neutron Source (LENS) consists of a radio frequency quadrupole and drift-tube linac capable of delivering 7- to 13-MeV protons in a pulsed beam with 25 mA peak current, adjustable pulse width and frequency, a water-cooled Be metal target, a room-temperature reflector, a cryogenic moderator, and biological shielding. The figure shows schematically the target-moderator-reflector arrangement of LENS. Four neutron beam ports emerge from the opposite side of the view shown in the figure. Three neutron beam ports view the 12- x 12-cm² moderator.



Left. Vertical section view of the LENS target-moderator-reflector and cooling system. Right. Horizontal section view of the target-moderator-reflector arrangement. A helium refrigerator cools the 12- x 12-cm² solid methane moderator through a high-purity aluminum thermal link (Lavelle et al. 2008).