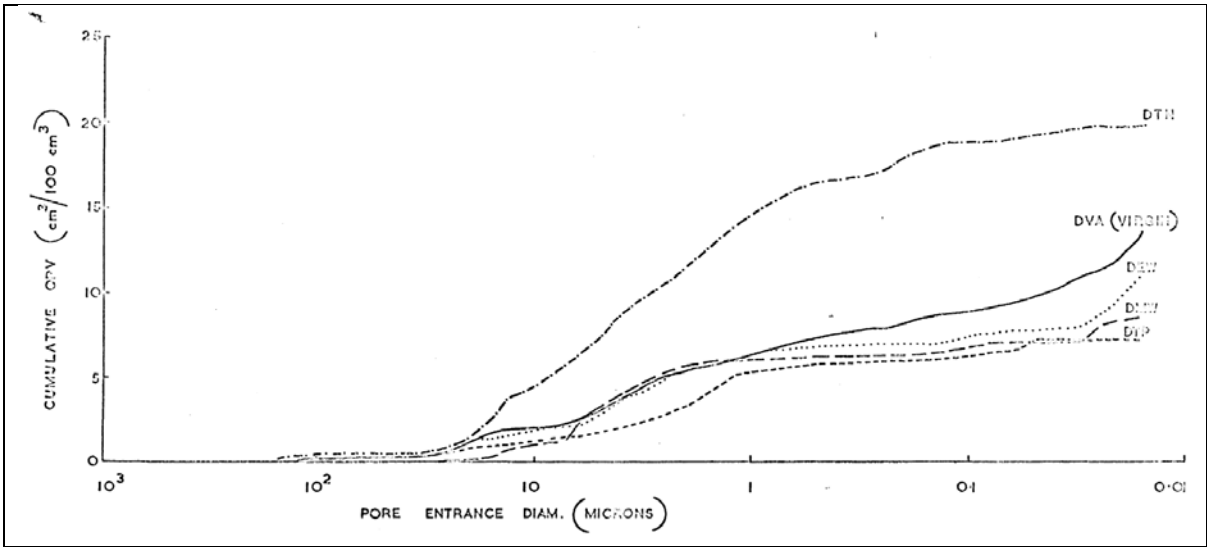
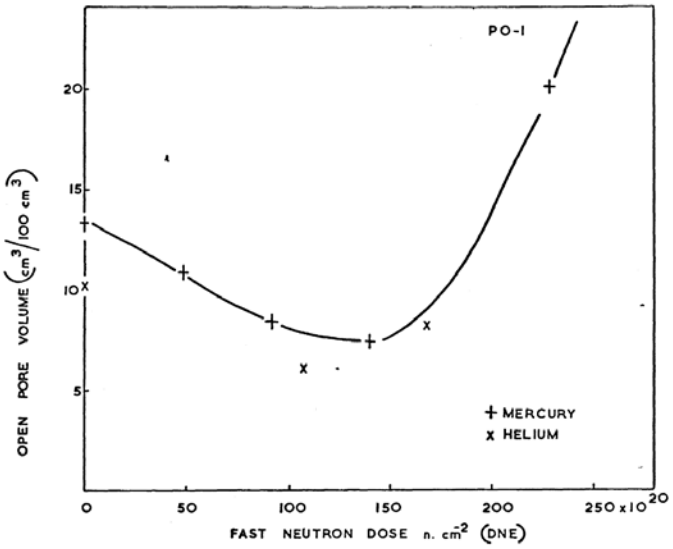
Change of Porosity in BAEL BAN graphite irradiated in an inert atmosphere

Barry J Marsden
Emeritus Professor, Nuclear Graphite Research Group
School of Mechanical, Aerospace and Civil Engineering
The University of Manchester

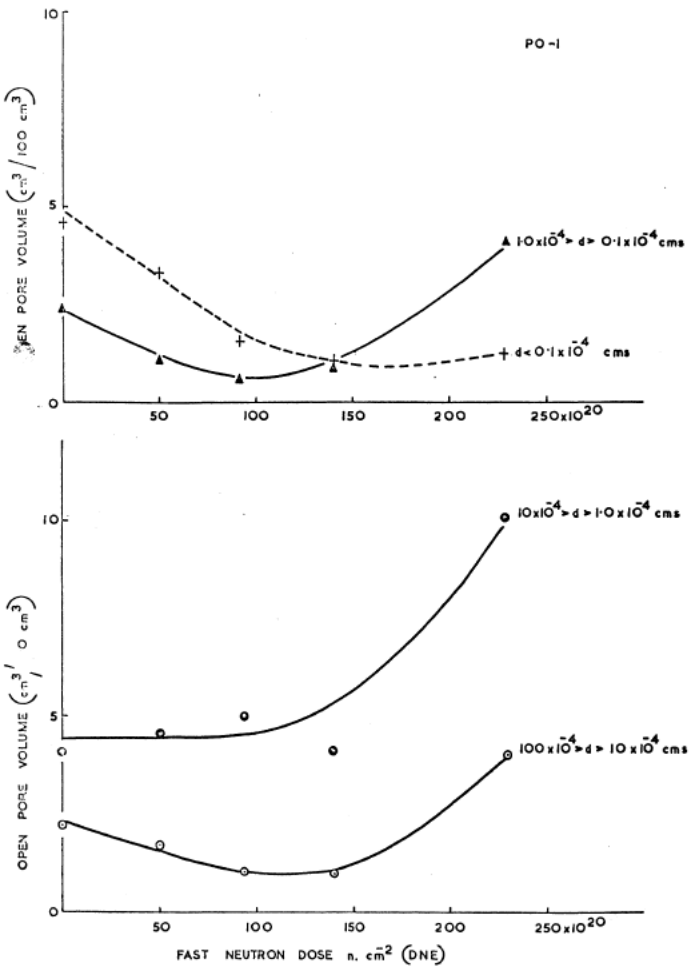


1. Mercury Porosity data



2. Helium Pycnometry and mercury porosity data

Material (all extruded)	Sample no.	Fast neutron dose nvt x 10^{20}	Irradiation temp. °C	Volume change %	Bulk density g/cm³	OPV cm³/100 cm³	% OPV associated with pores whose diameters lie in the range (microns)				
							> 100	100–10	10–1	1–0.1	< 0.1
BAEL BAN (PO-1)	DVA	-	-	-	1.817	13.3	0.1	17.0	30.7	18.0	34.1
	DEW	49.6	415	- 3.2	1.873	10.9	1.1	15.9	41.7	10.3	30.9
	DMW	92.0	430	- 6.5	1.941	8.3	0	12.8	60.2	8.0	19.0
	DTP	140	670	- 6.9	1.914	7.3	1.4	13.7	56.8	13.7	14.4
	DTN	229	790	+10.6	1.526	20.0	1.8	20.2	51.0	20.7	6.3



3. Variation in different pore entrance diameter ranges.