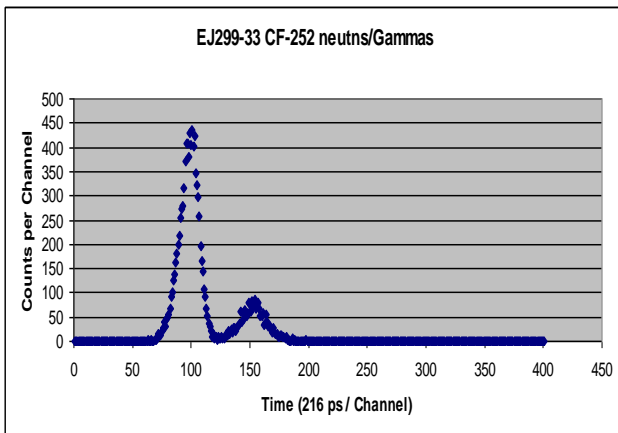
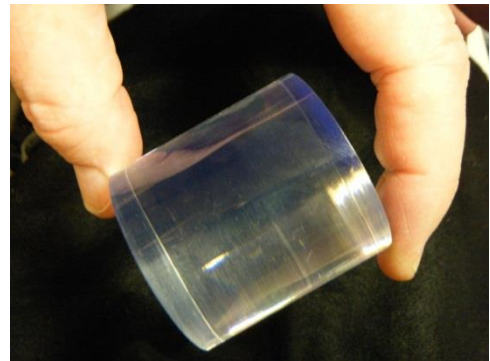


Plastic scintillation detectors with neutron gamma discrimination : EJ299-33/34

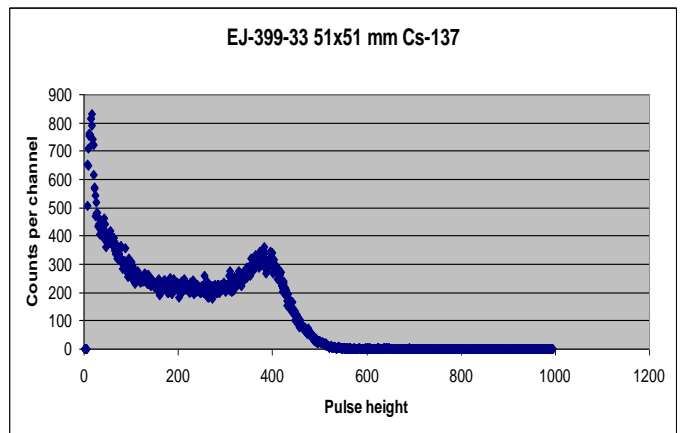
This revolutionary plastic scintillator possesses pulse shape discrimination properties enabling the separation of gamma and fast neutron signals on the basis of their timing characteristics using conventional PSD electronics systems. It is, at this time, still under development in regard to optimized composition and manufacturing procedures. Cylinders up 51mm diameter x 76mm long have been manufactured. The following physical properties are representative of the more successful formulas.

Physical and Scintillation Constants:

Light Output, % Anthracene	56
Scintillation Efficiency, photons/1 MeV e-.....	8,600
Wavelength of Max. Emission, nm.....	420
No. of H atoms per cm ³ , x 10 ²²	5.13
No. of C atoms per cm ³ , x 10 ²²	4.86
No. of electrons per cm ³ , x 10 ²³	3.55
Density, g/cc:	1.08



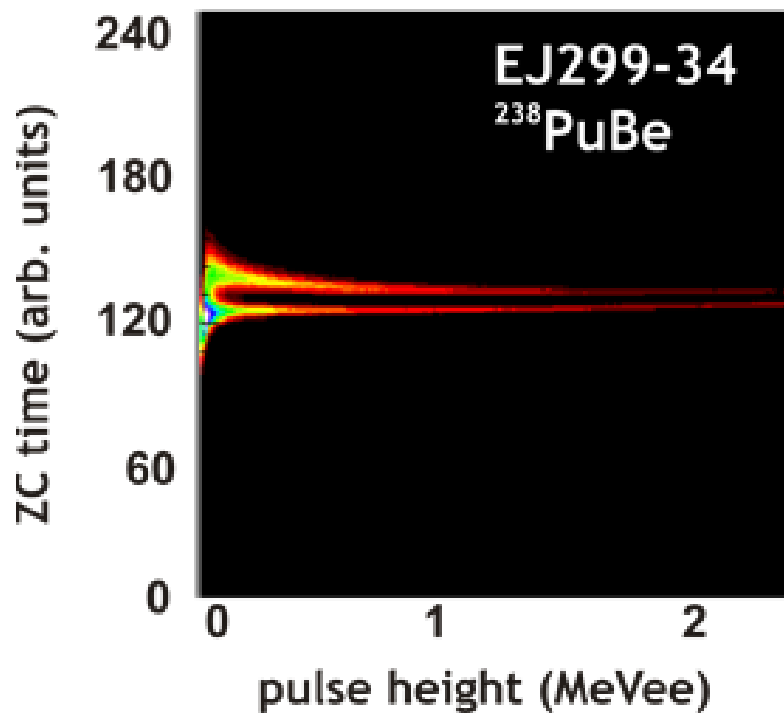
Neutron / Gamma spectrum EJ299-33
(100 keV electron energy threshold)



Pulse height spectrum Cs-137



EJ299-33 scintillation detector with fast 2 ns PMT and transistorised voltage divider



Neutron / Gamma spectrum of a 51 x 51 mm EJ299-34 plastic scintillator

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