

Comparison of the energy response of the Mini 900 D and Mini 900 D H*(10) with different caps



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Centre for Radiation, Chemical and Environmental Hazards
Radiation Protection Division
formerly the National Radiological Protection Board

- Both models of the 900 D have an end cap which is an essential part of the compensation
- ‘Exposure’ based model - Plastic
H*(10) Model - Plastic + Aluminium

Problem: common for the users of these instruments to :-

- Have both generations of D
- Remove/loose the caps and/or
- Use the wrong cap (transpose between models)

The two compensation designs



What effect do the caps have?

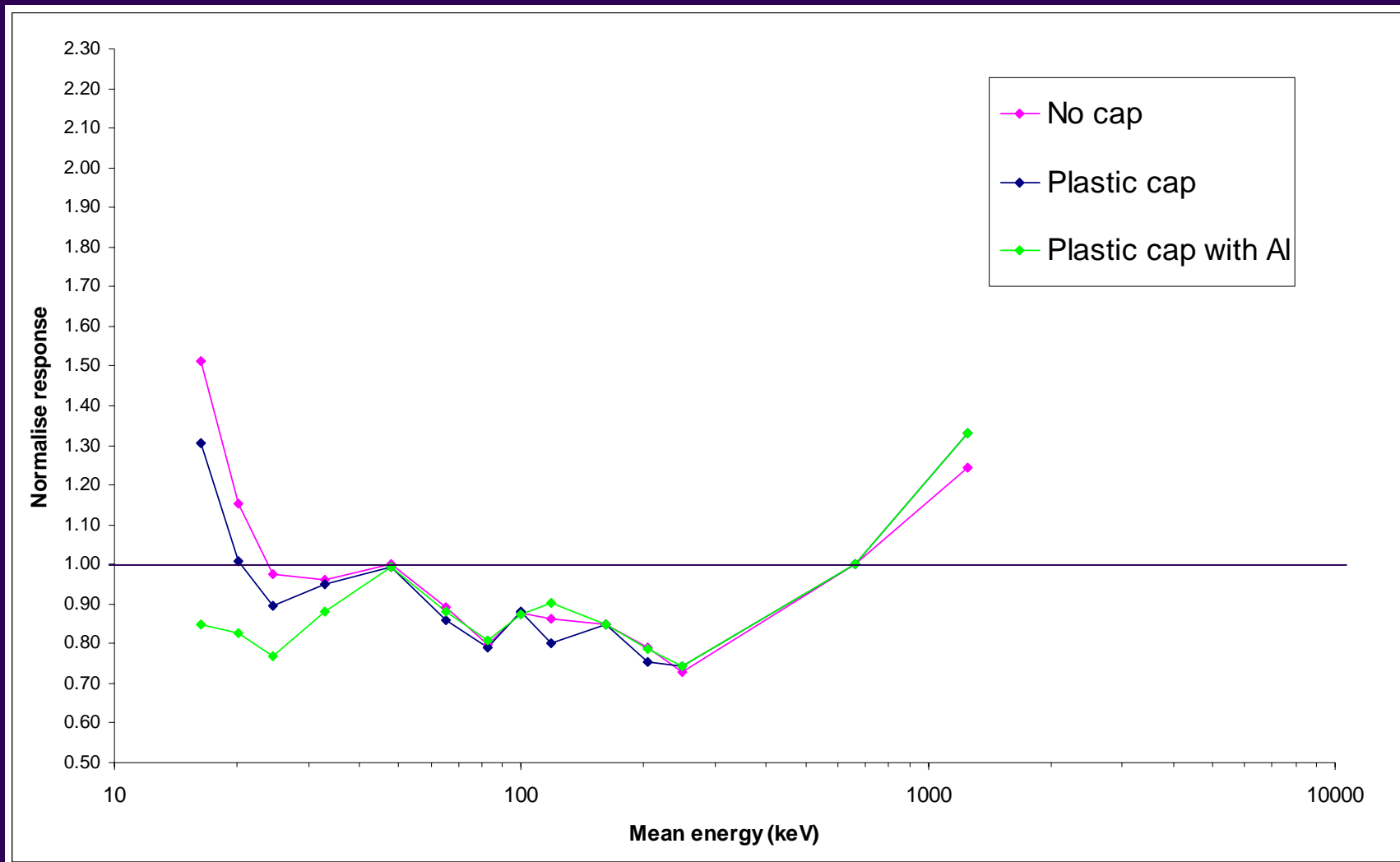


To see what effect the caps have - measured the energy response of both an original (Exposure) Mini 900 D and a Mini 900 D H*(10) with:

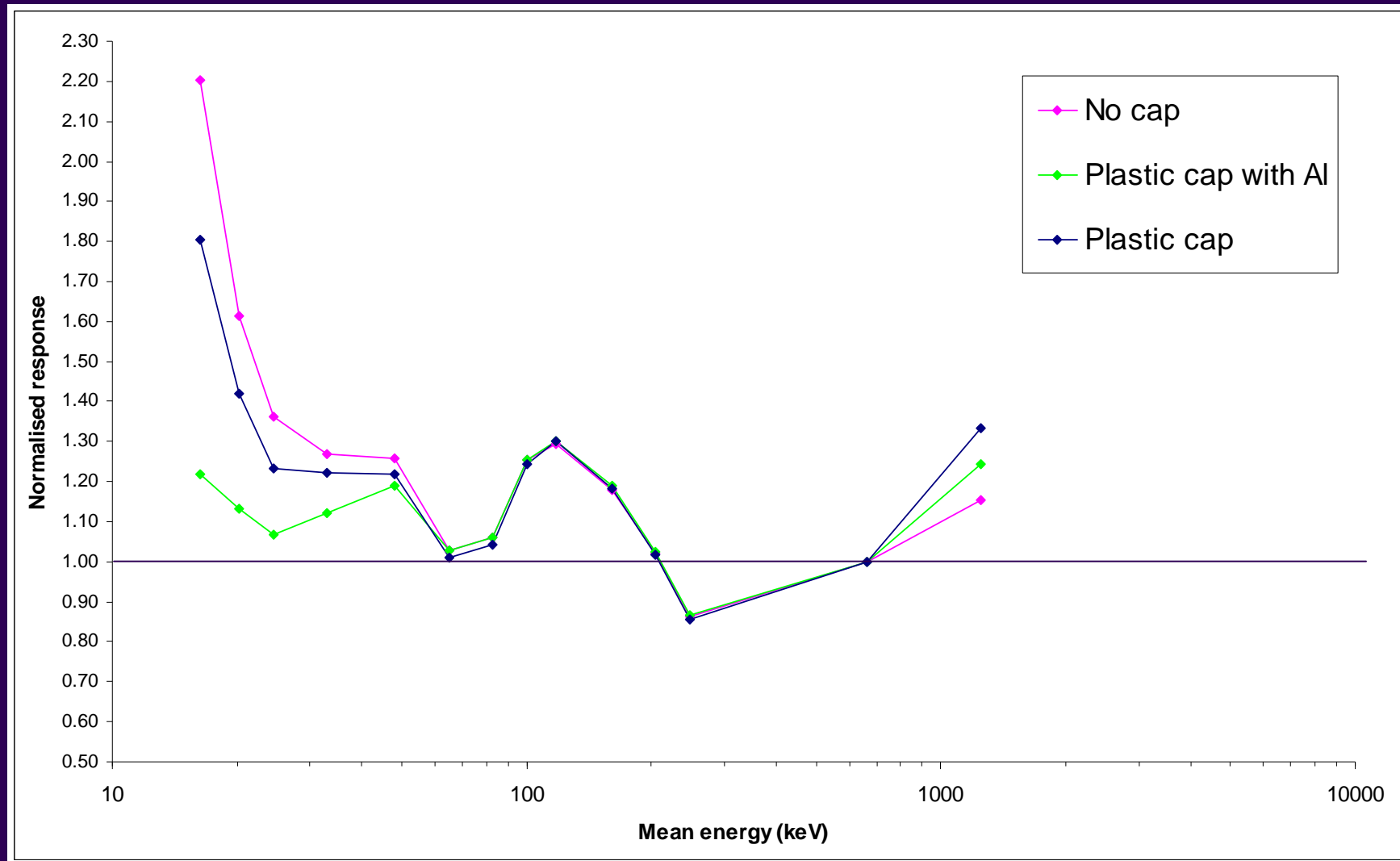
- Plastic cap
- Plastic + Aluminium
- No cap

using ISO 4037 X and gamma radiations with energies between 16.3keV and 1.25MeV.

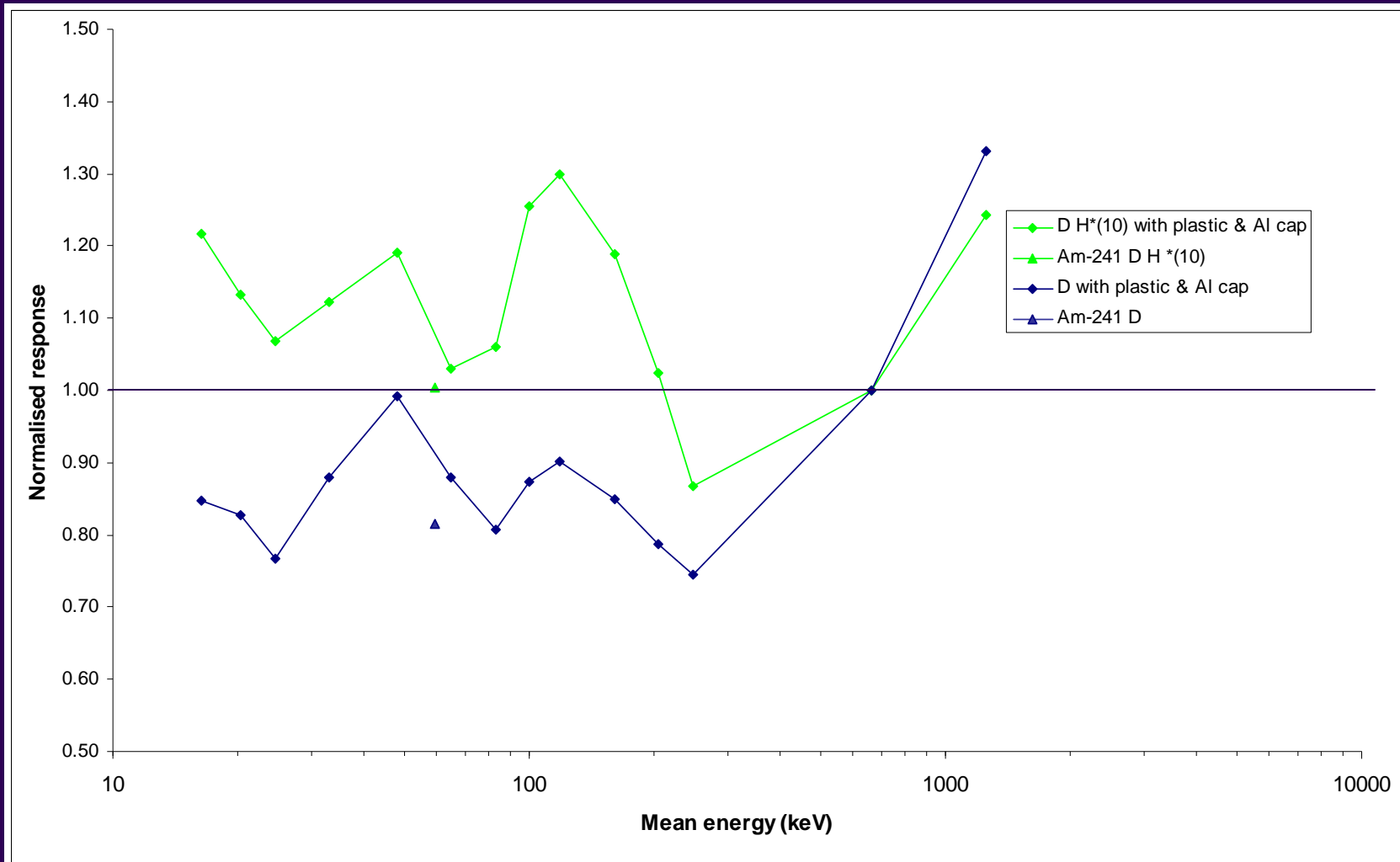
Energy response of the Mini 900 D



Energy response of the Mini 900 D H*(10)



H*(10) D and exposure D with plastic + aluminium



- At higher energies, the caps have no significant effect on response
- A cap must be used with either version to prevent significant over response at low energies
- Satisfactory Ambient $H^*(10)$ energy response is obtained with **either** model, providing the $H^*(10)$ cap (plastic + Al) is fitted
- Scope for optimisation of the design