

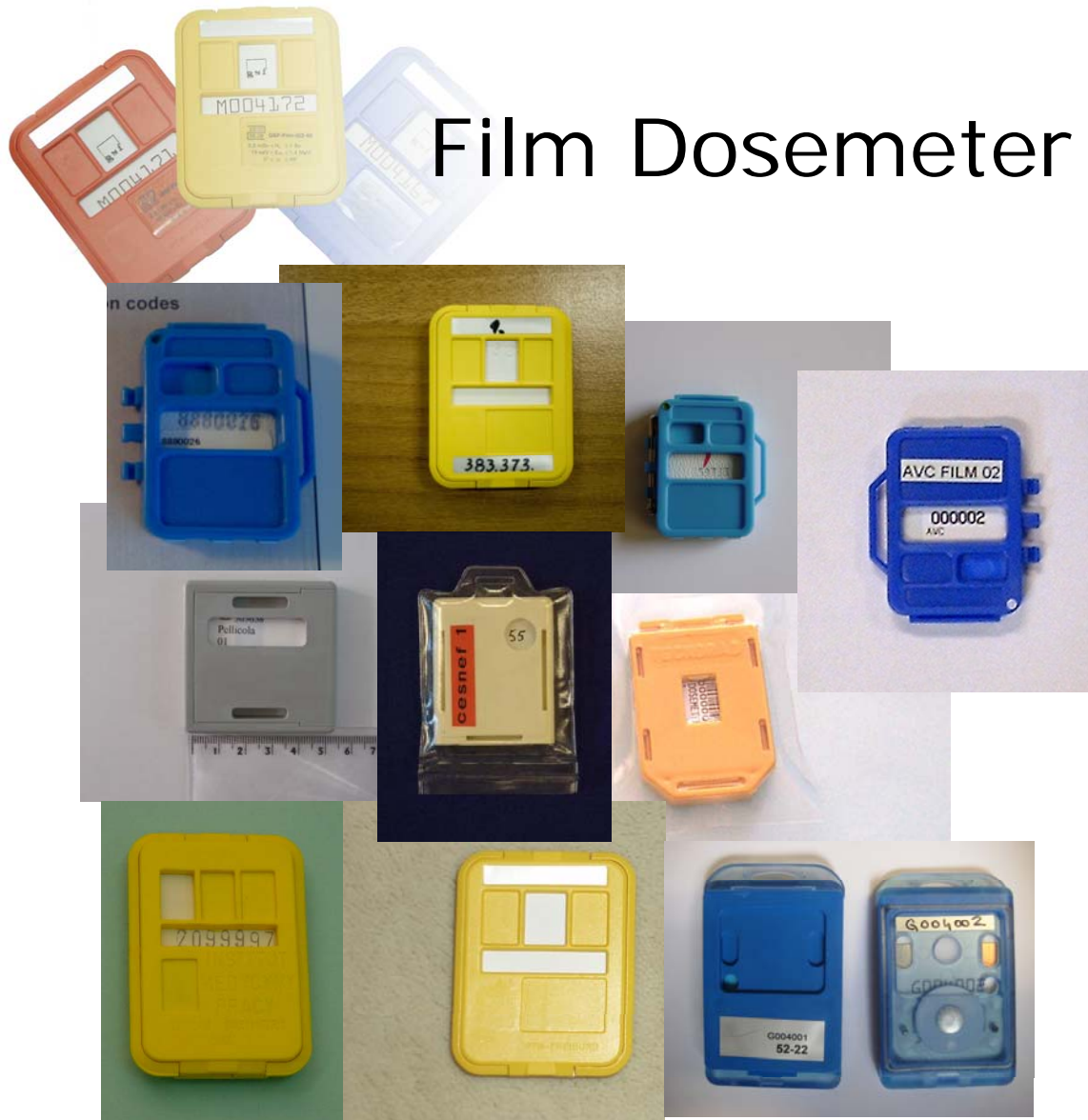


EURADOS Intercomparison 2008 - Film Dosimeters -

EURADOS Annual Meeting AM2009
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Film Dosimeter Types

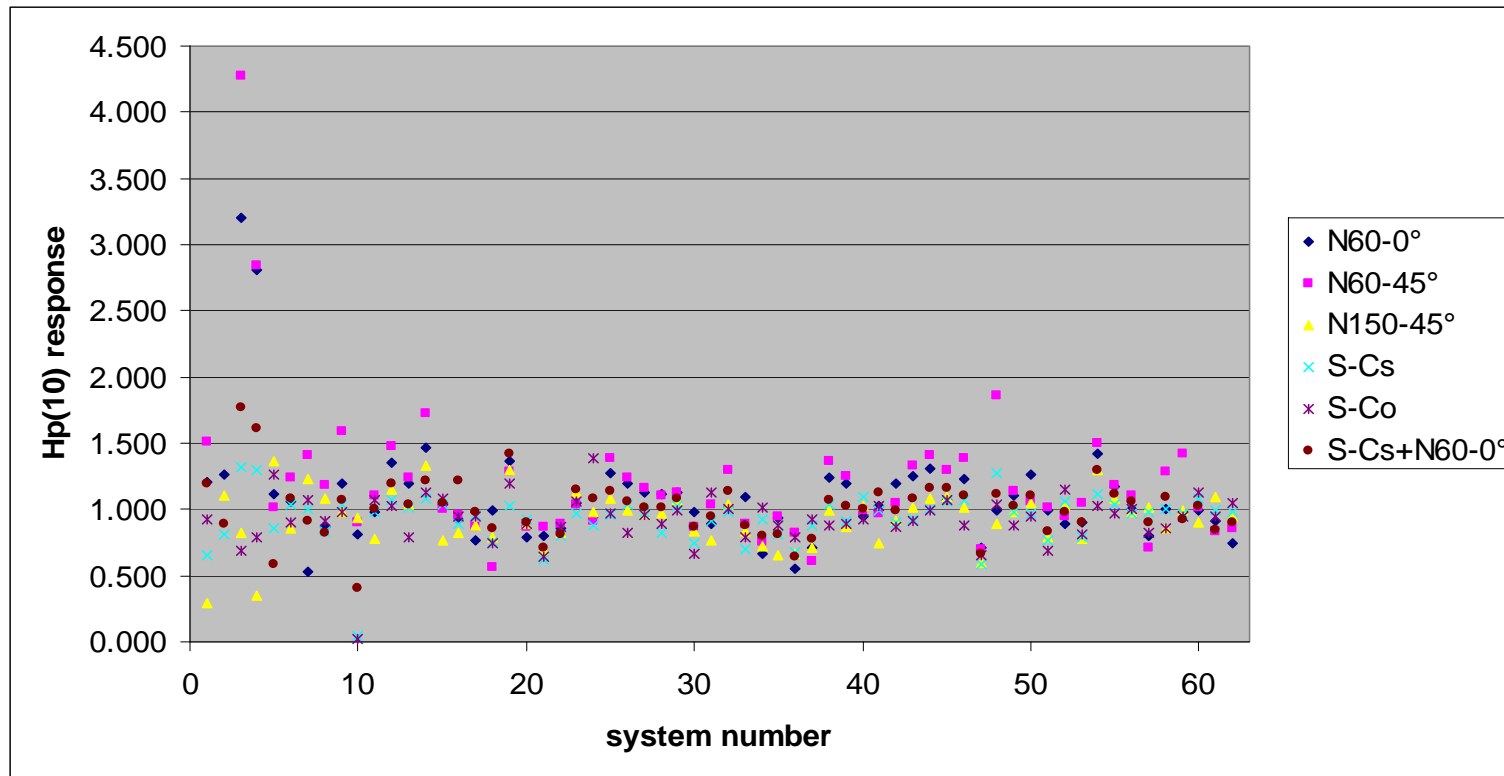


- 10 film systems
 - 10 reporting $H_p(10)$
 - 5 reporting $H_p(0.07)$
- 7 badge types
- 3 film types?
 - Kodak
 - Agfa
 - Foma
- 10 algorithms?



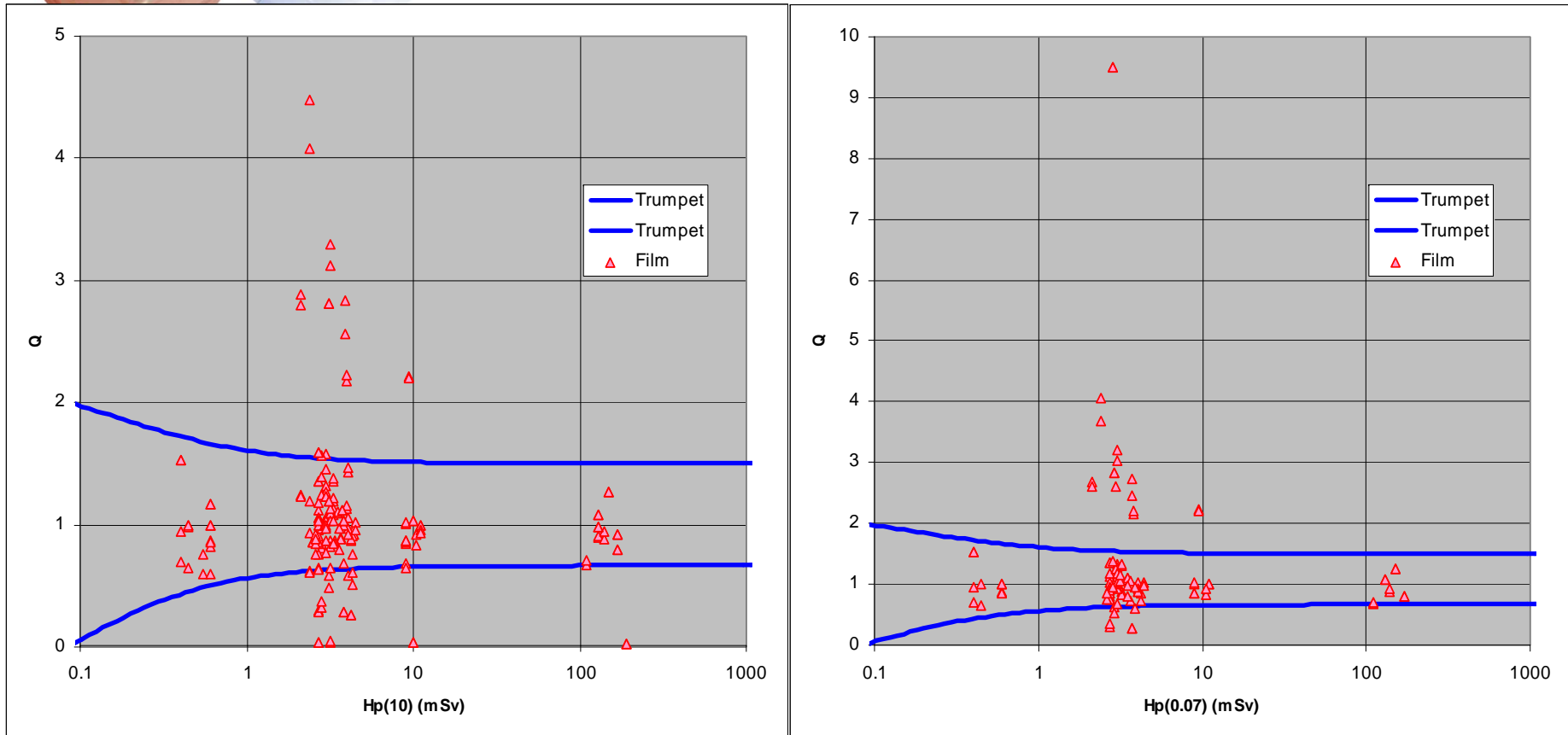
Energy Response for all Systems

- $H_p(10)$ -





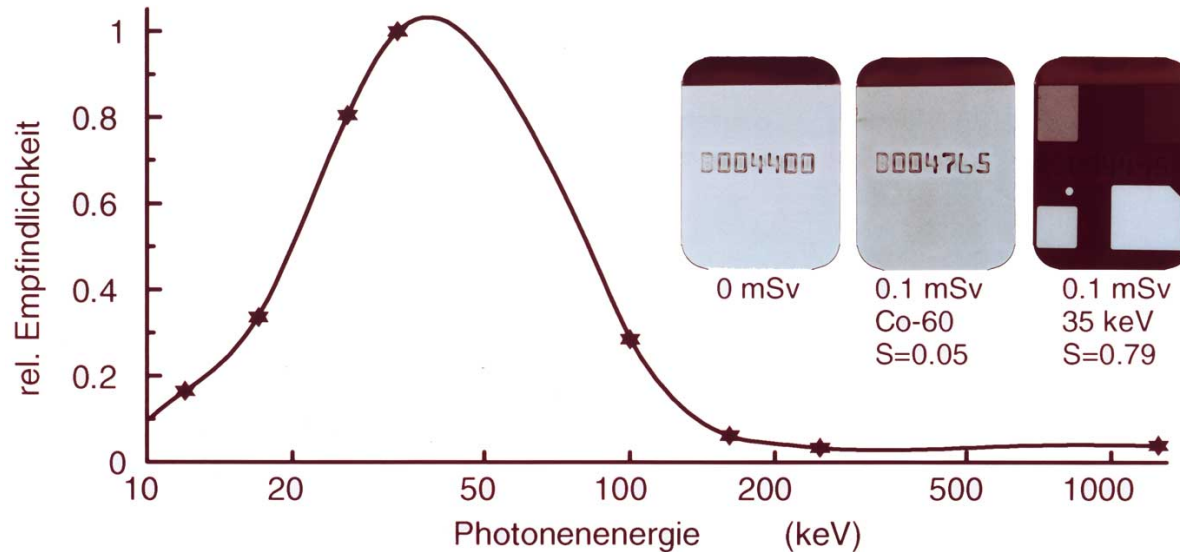
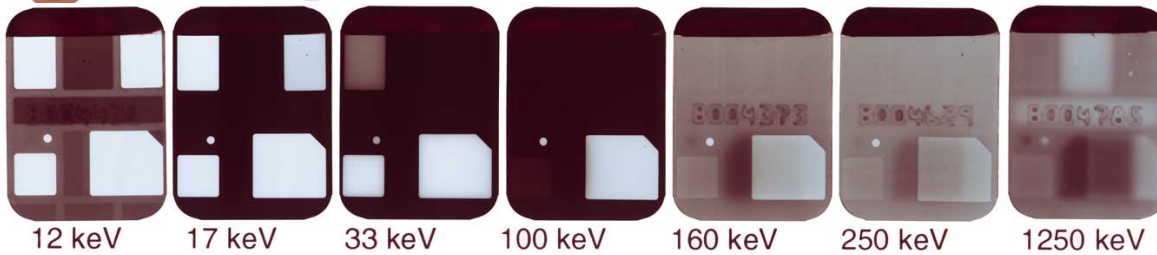
Dose Response of Film Dosimeters





Film Dosemeter

- energy dependence of dosimetry films -

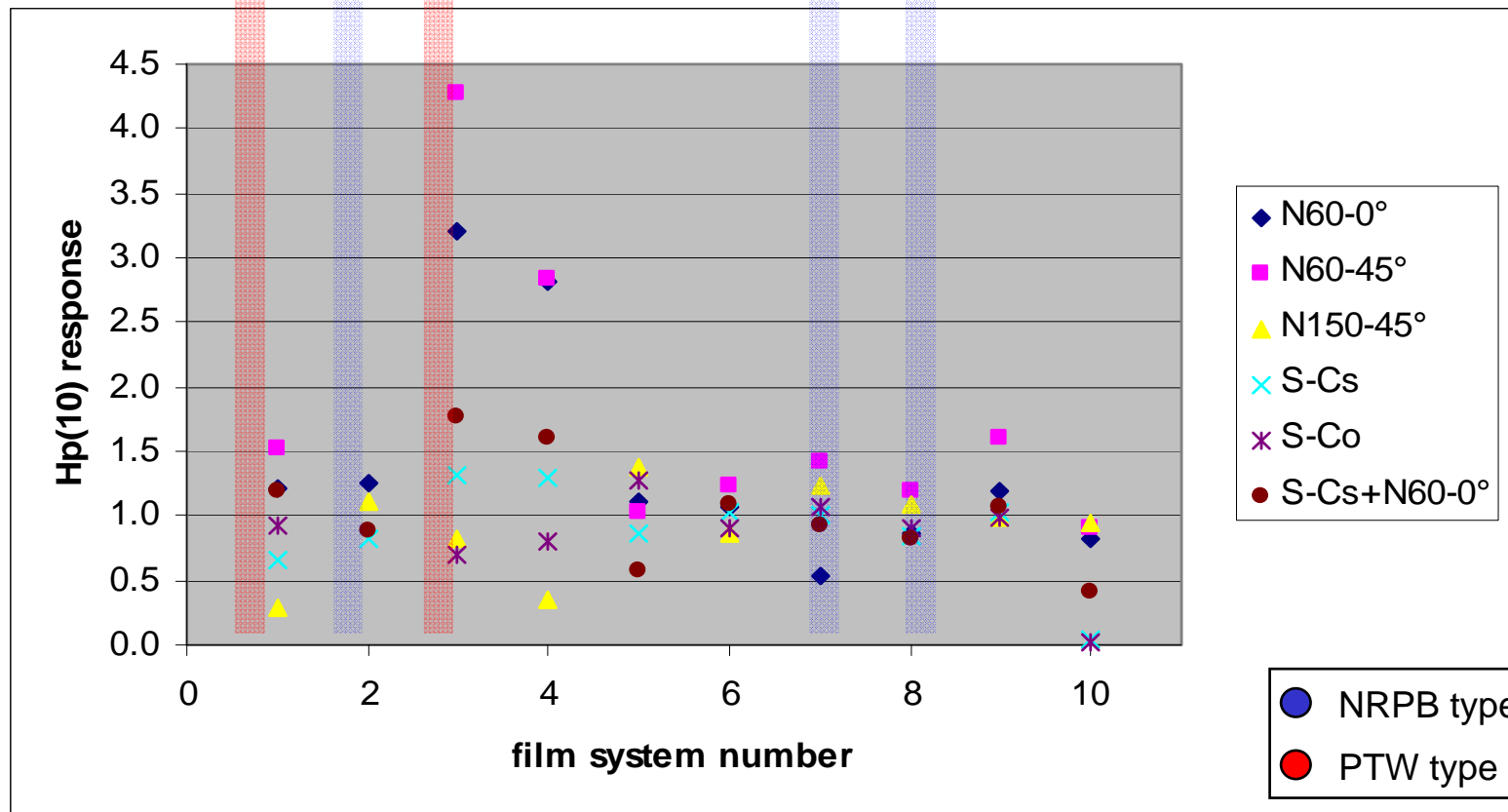


- High energy dependence
- Very high sensitivity at X-ray energies
- Low sensitivity at high energies



Energy Response for Film Dosimeters

- $H_p(10)$ -





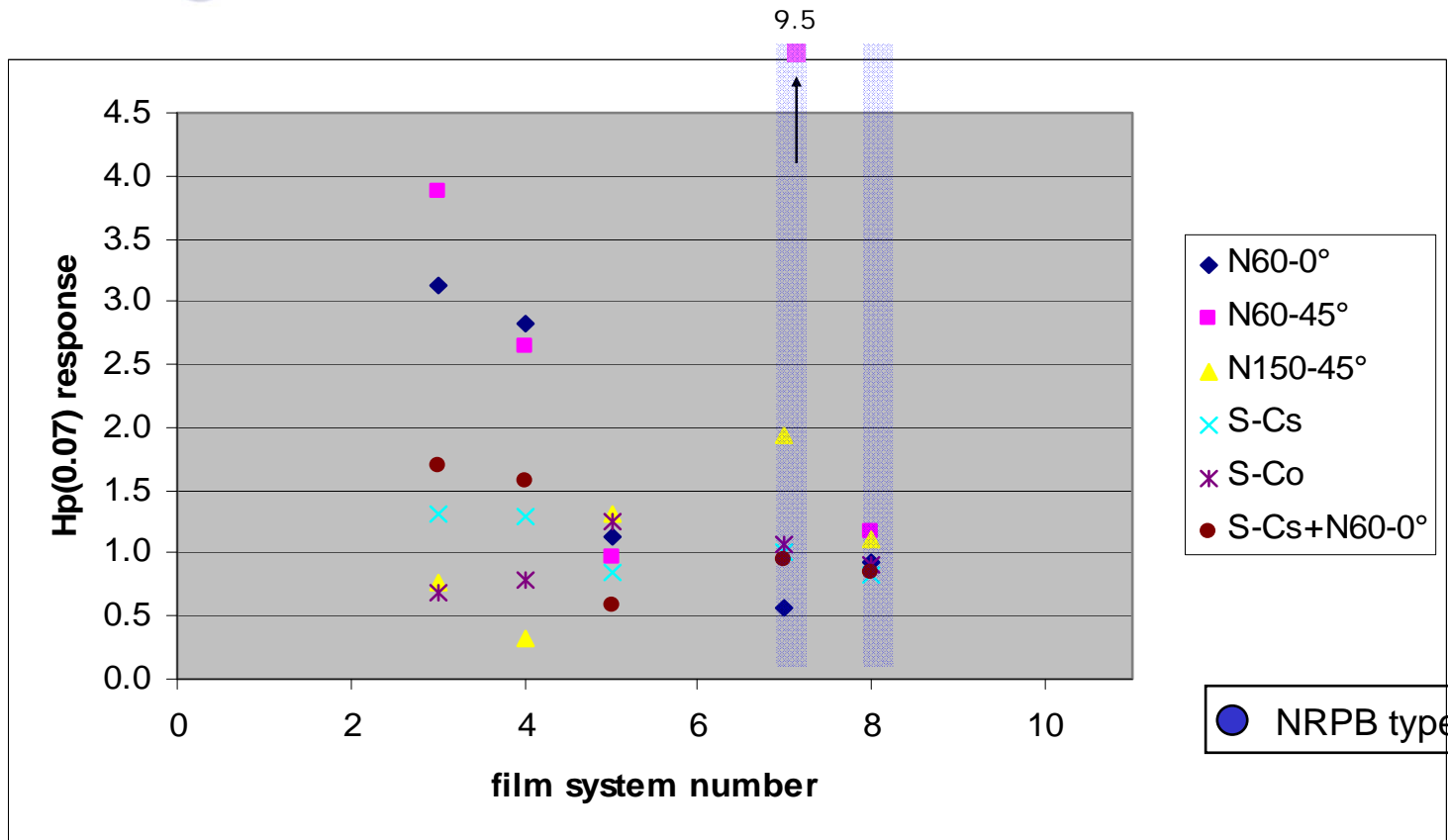
H_p(10) Response

Quantity		Hp(10)						
Mean Q Value								
type	Sys	N60-0°	N60-45°	N150-45°	S-Cs	S-Co	S-Cs+N60-0°	All
Film	1	1,211	1,515	0,294	0,652	0,922	1,196	0,894
	2	1,259		1,108	0,817		0,891	0,907
	3	3,206	4,277	0,823	1,320	0,692	1,766	1,781
	4	2,810	2,843	0,350	1,297	0,792	1,609	1,520
	5	1,112	1,021	1,369	0,859	1,269	0,583	0,937



Energy Response for Film Dosimeters

- $H_p(0.07)$ -





H_p(0.07) Response

Quant ity		Hp(0.07)						
Mean Q Value								
type	Sys	N60-0°	N60-45°	N150-45°	S-Cs	S-Co	S-Cs+N60-0°	All
Film	1							
	2							
	3	3.118	3.866	0.775	1.320	0.692	1.692	1.712
	4	2.828	2.646	0.327	1.297	0.792	1.577	1.493
	5	1.136	0.968	1.310	0.852	1.258	0.578	0.923
	6							
	7	0.567	9.507	1.939	1.008	1.077	0.942	1.901
	8	0.927	1.167	1.104	0.834	0.913	0.845	0.914
	9							



Conclusion

- $H_p(10)$
 - N-60 quality is difficult for some systems
 - there are systems with good results (linear algorithms?)
 - Improvement possible due to change of the dose algorithms and badge (?)
- $H_p(0.07)$
 - Film dosimeters can be good $H_p(0.07)$ systems
 - Even similar systems use different dose calculation algorithms
 - Improvement possible due to change of the dose algorithms



Film dosimeters are reliable, if good filter combinations and algorithms are used

