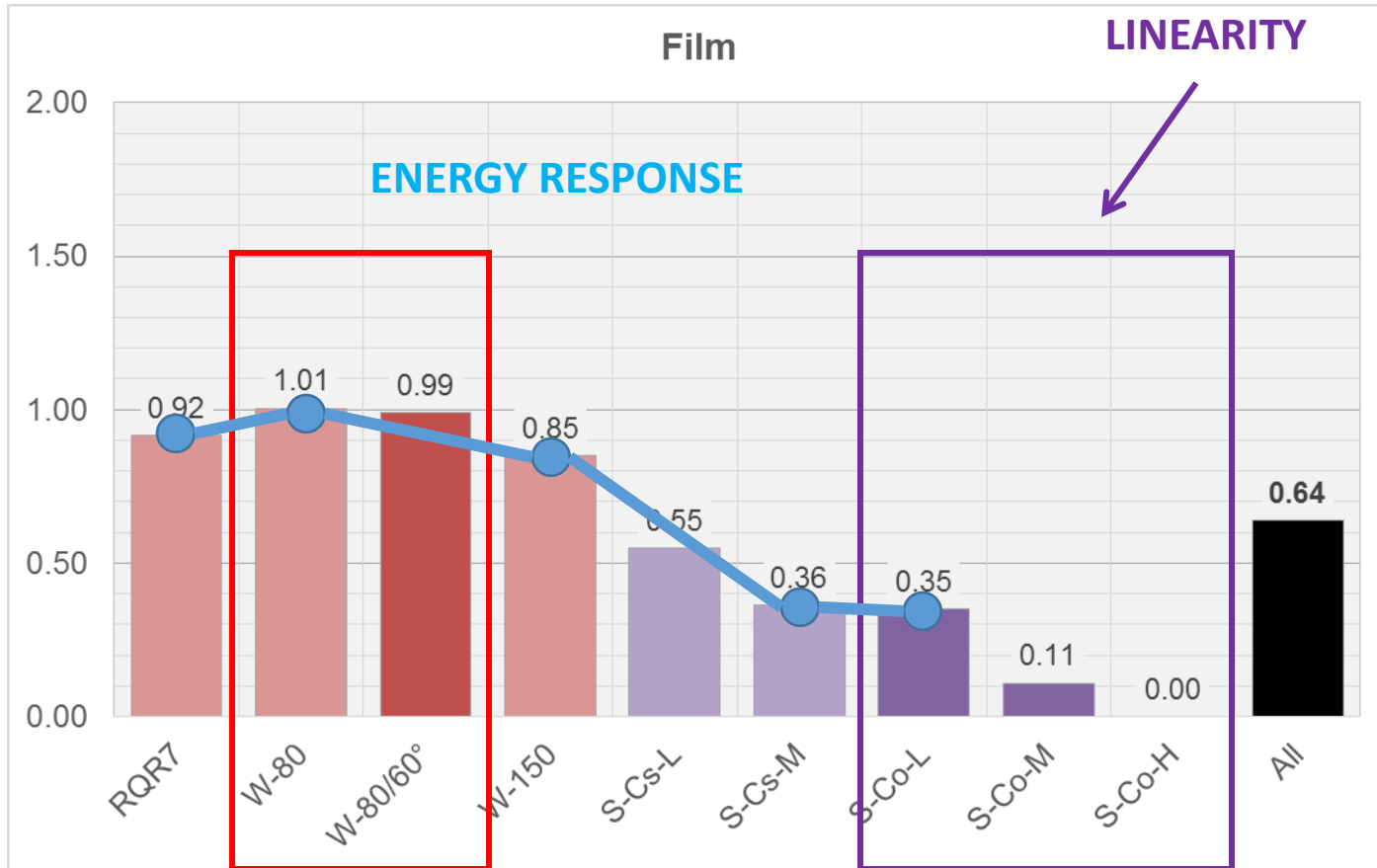# IC2014ph
# Special cases

A.M. Romero, H. Stadtmann , M. Figel,

T. Grimbergen, A. McWhan,, W. Dobrzynska

# Irradiation plan was designed to check:



**LINEARITY**

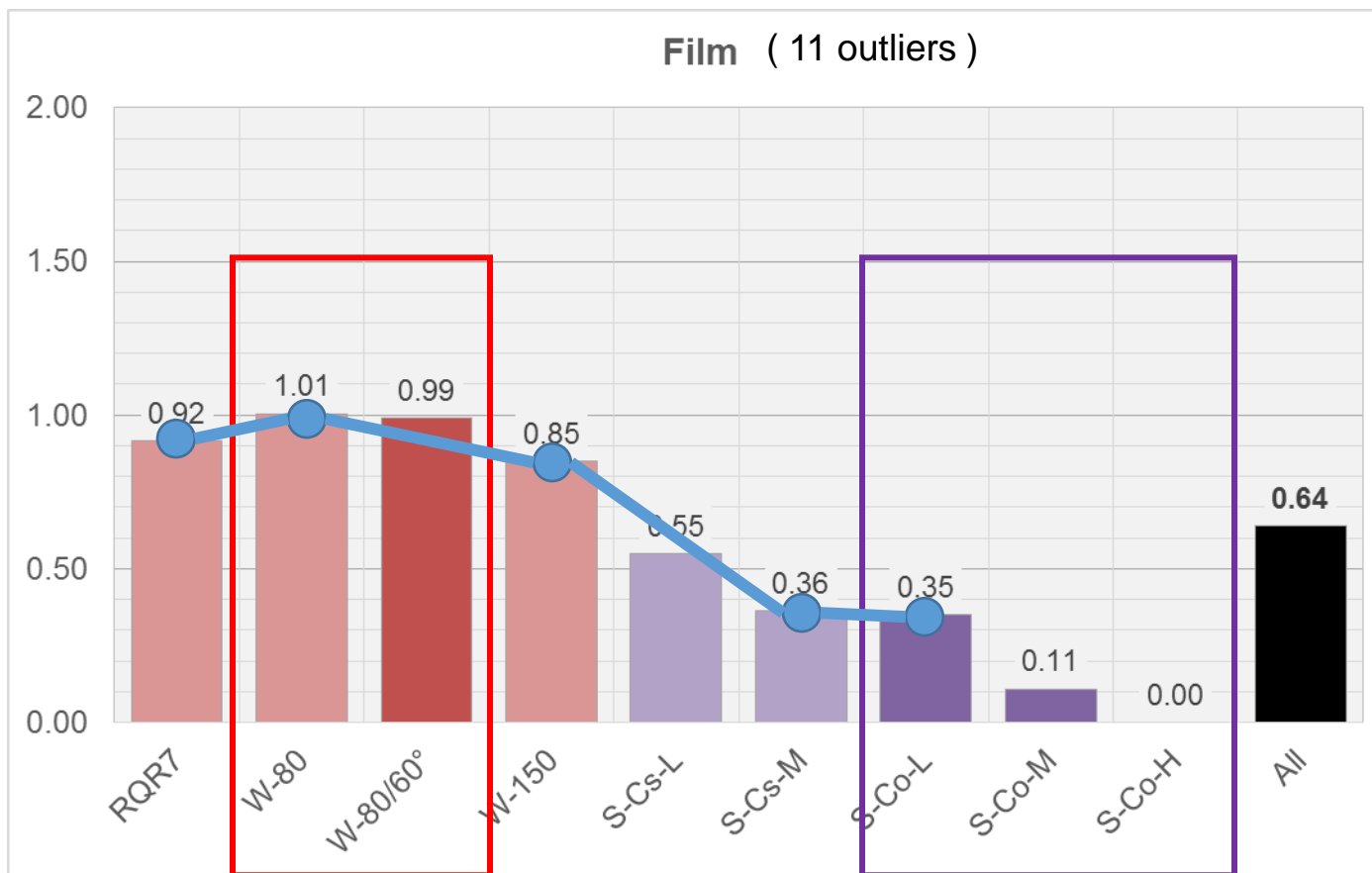**ENERGY RESPONSE**

**ANGULAR RESPONSE**

Film chart values: RQR7 0.92, W-80 1.01, W-80/60° 0.99, W-150 0.85, S-Cs-L 0.55, S-Cs-M 0.36, S-Co-L 0.35, S-Co-M 0.11, S-Co-H 0.00, All 0.64

FILM Systems, $H_p(10)$

- Saturation problem (film/densitometer)?
- Change of film in two film systems (fast/low emulsion)?

Film ( 10 outliers )

- Saturation problem (film/densitometer)?
- Change of film in two film systems (fast/low emulsion)?
- Badge design?

Film ( no outliers )

- Very good performance!

# TLD Systems, $H_\text{p}(10)$

International Conference on Individual Monitoring of Ionising Radiation
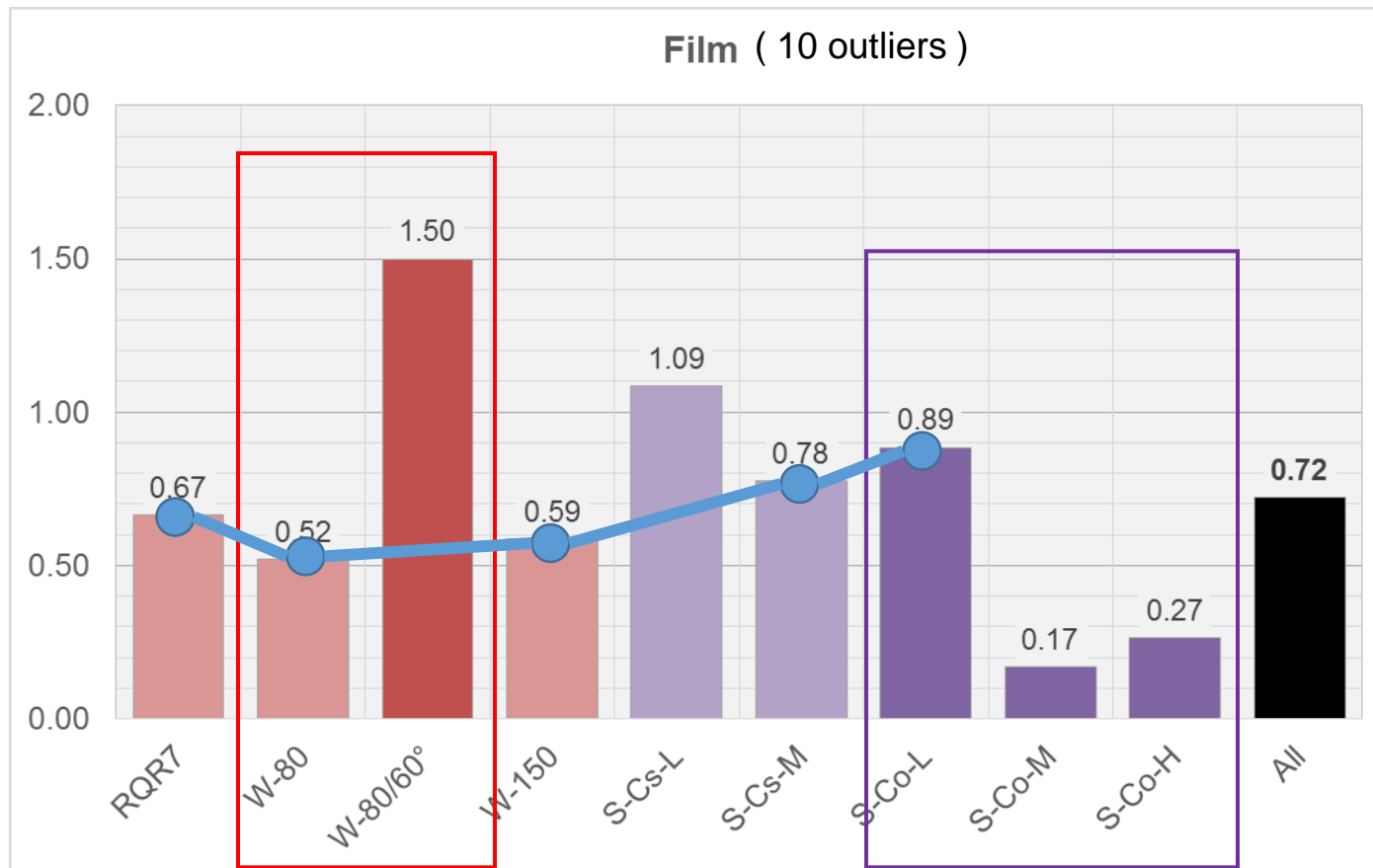April 20-24, 2015, Bruges, Belgium
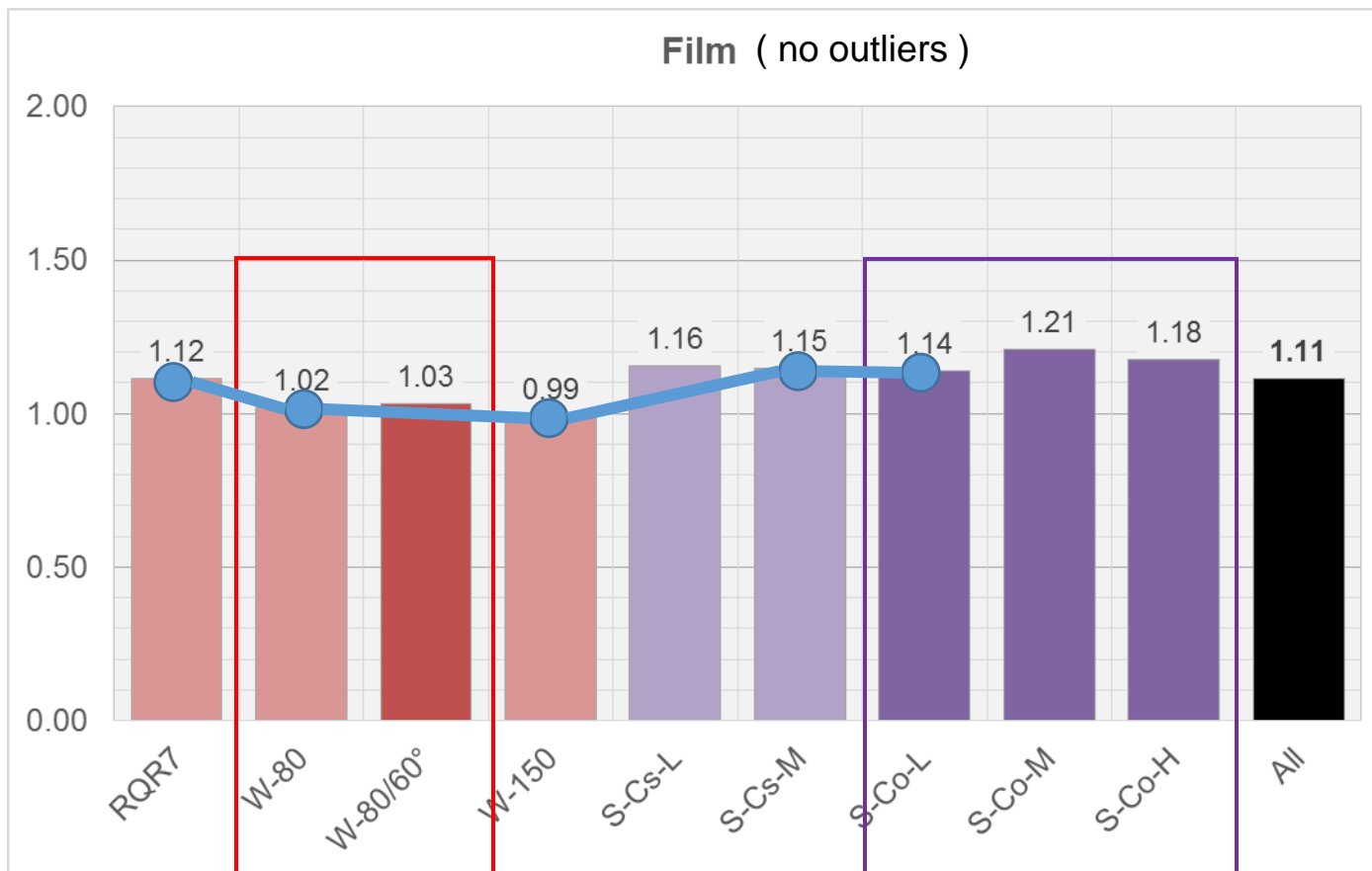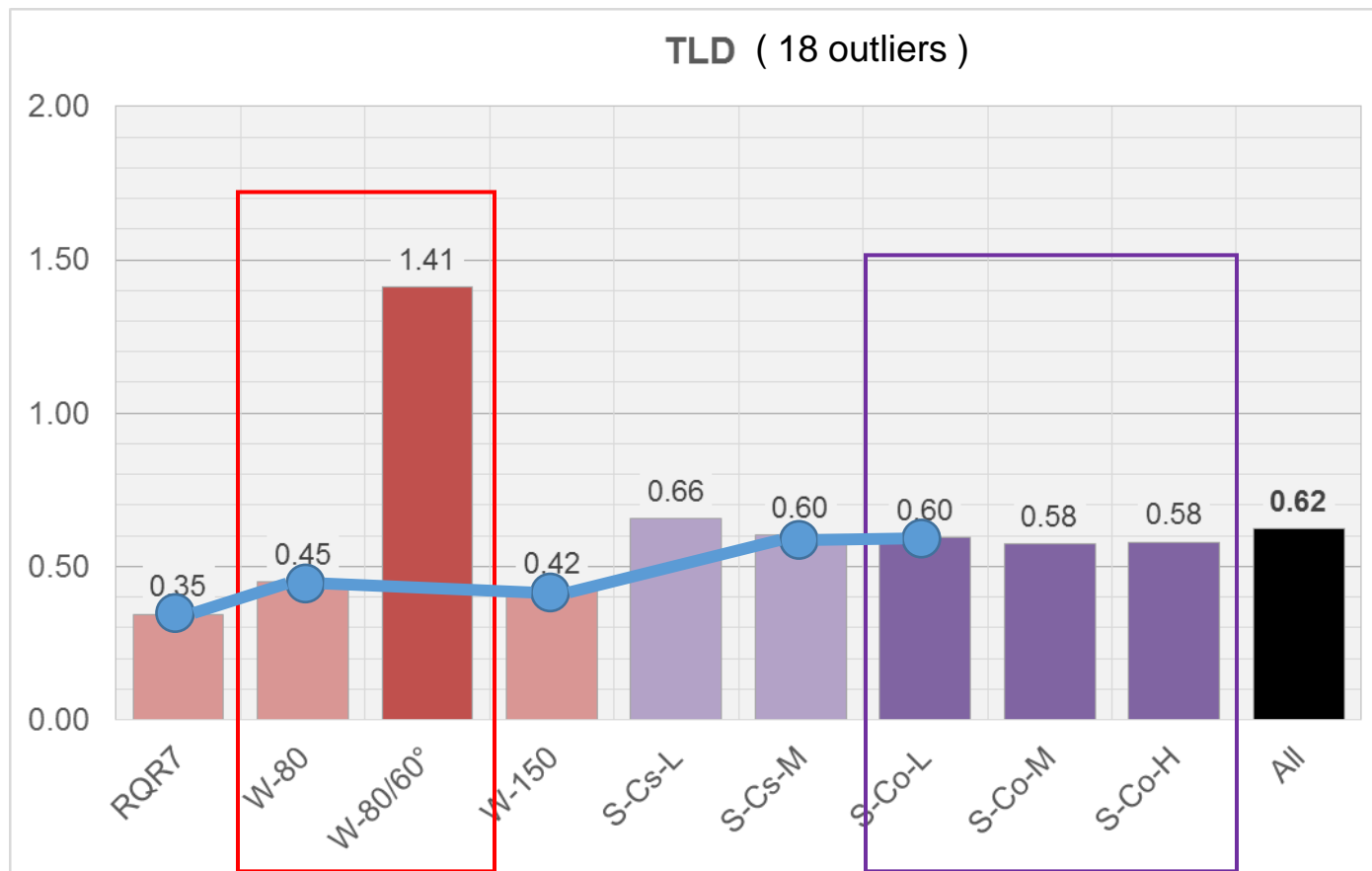2015
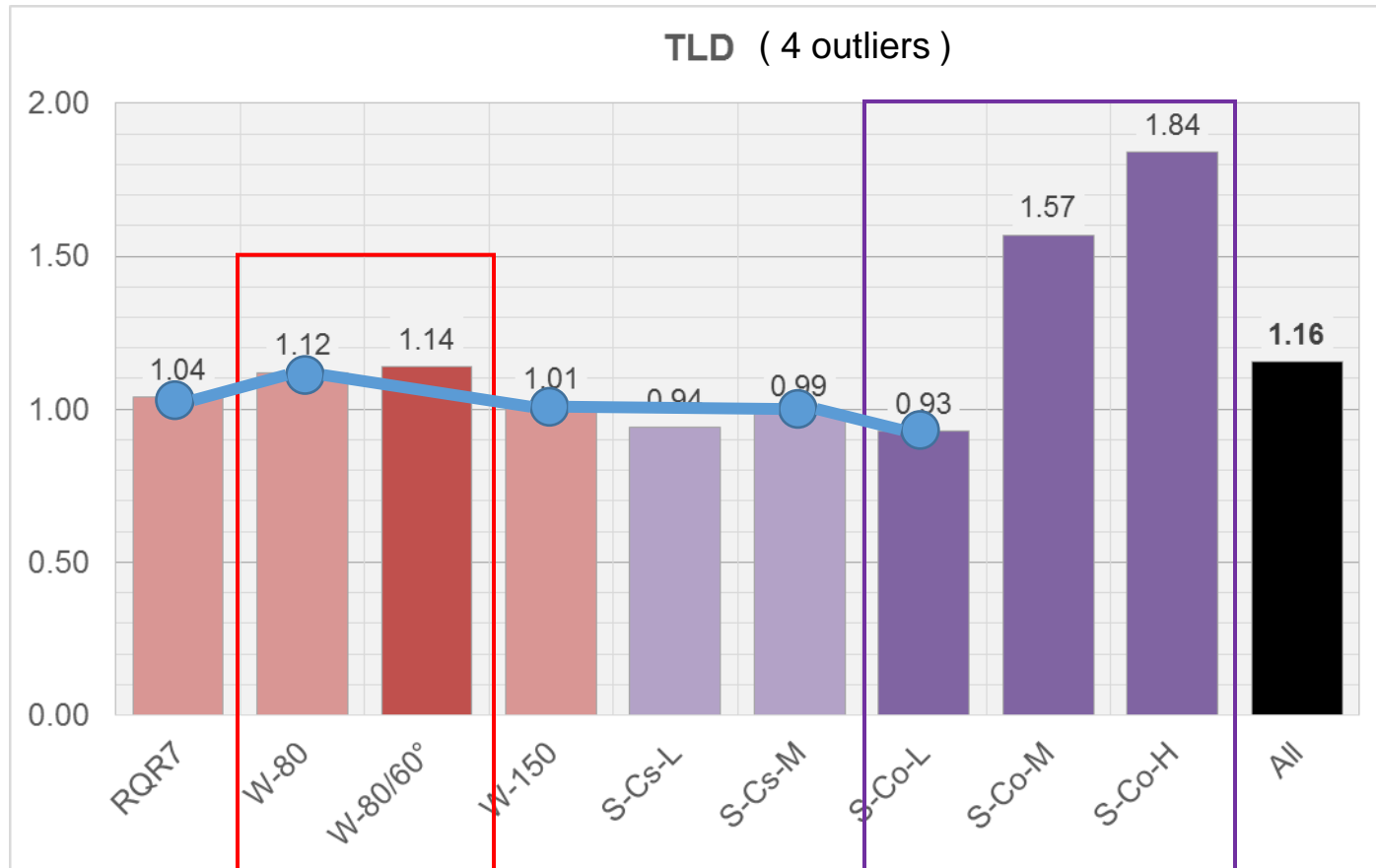
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SEIBERSDORF LABORATORIES
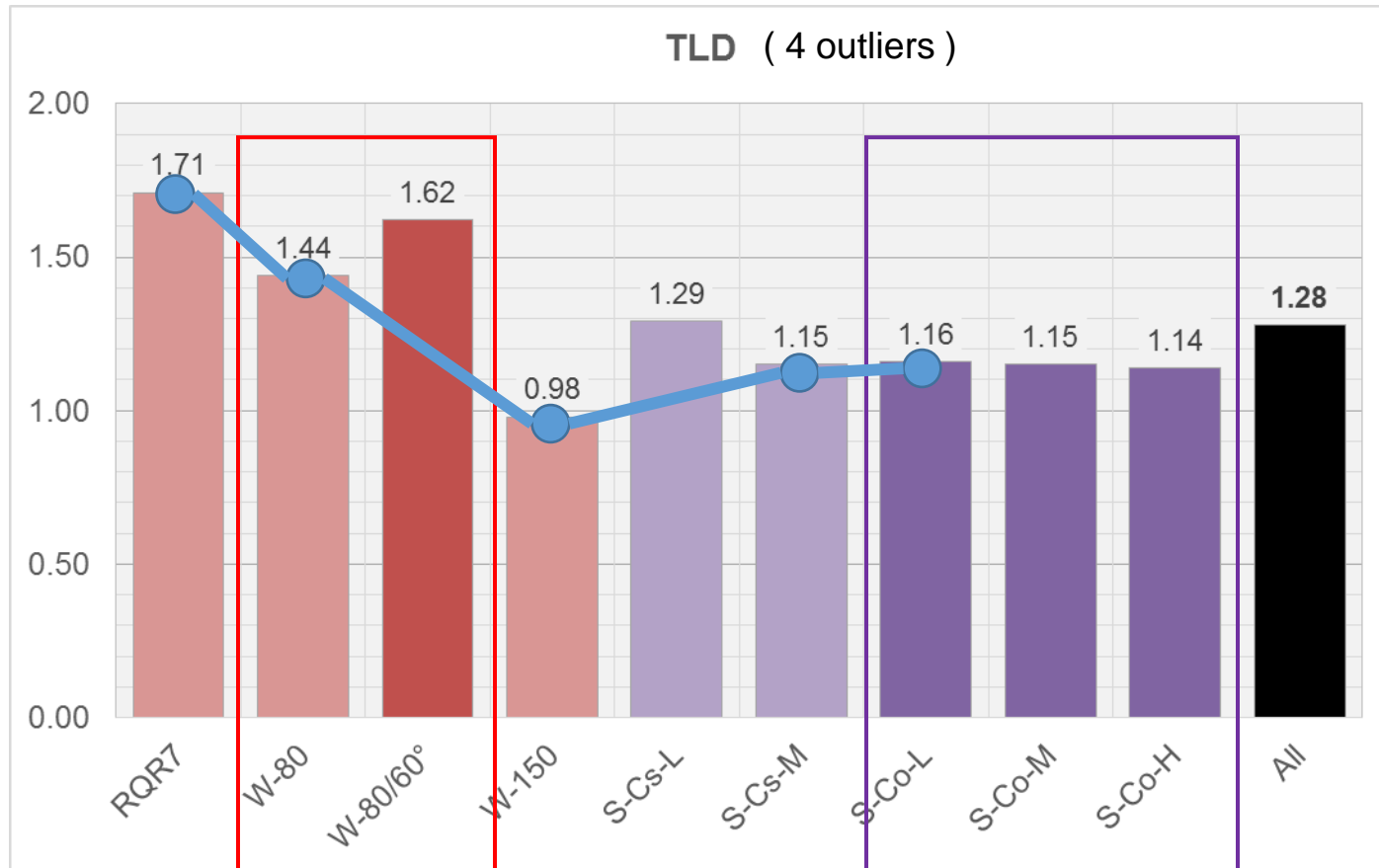


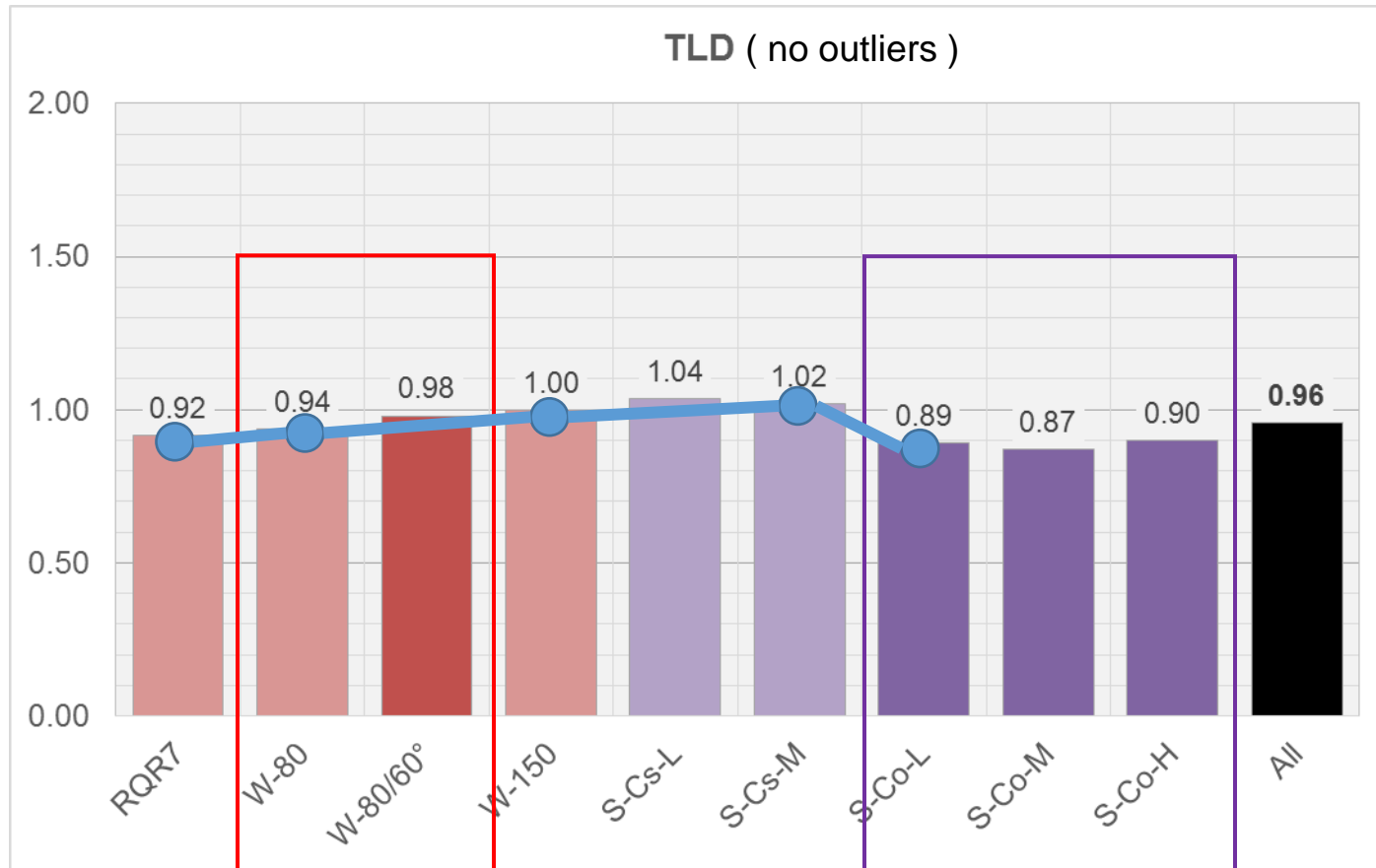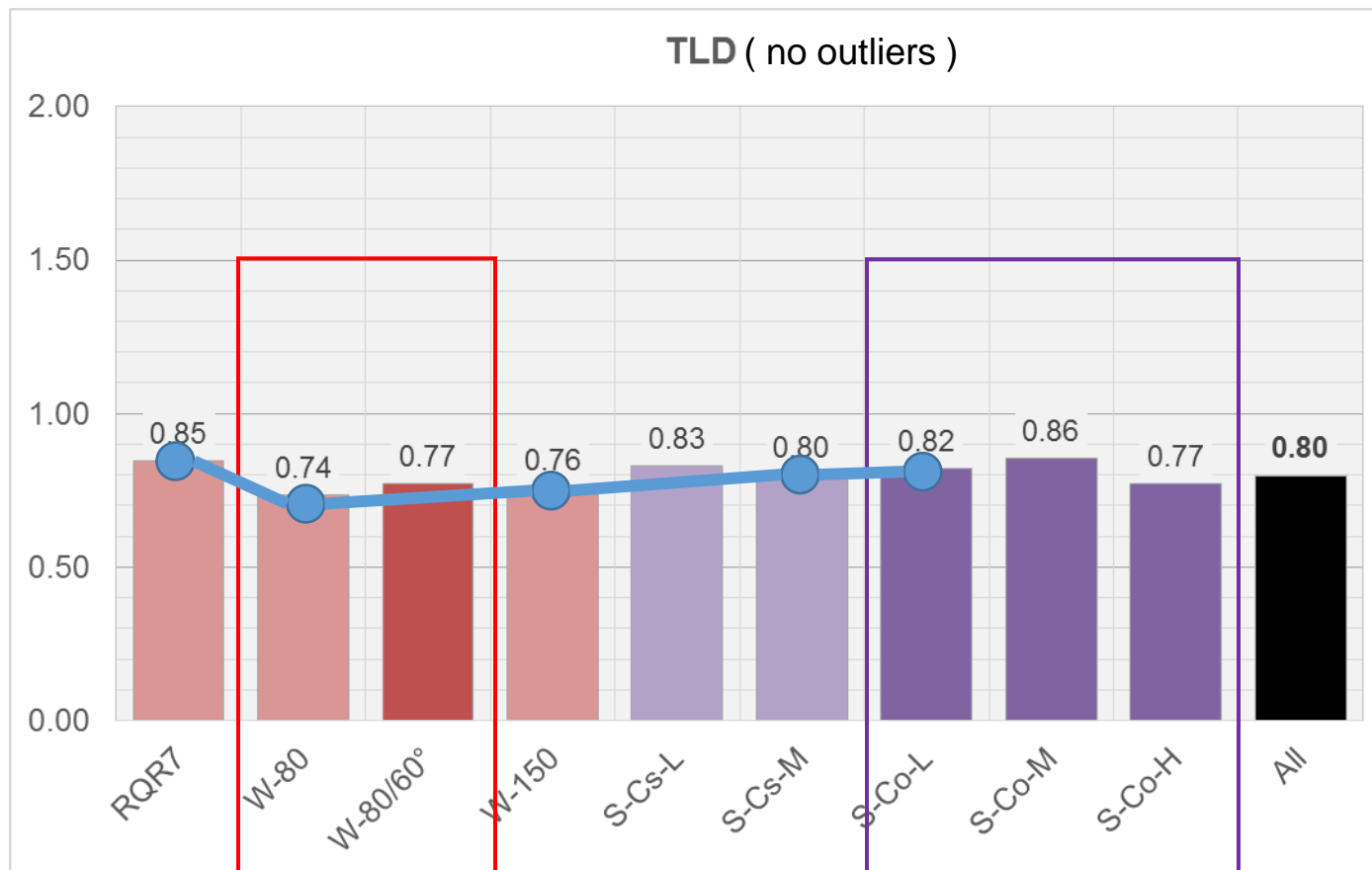**TLD** ( 18 outliers )

- Badge design

- Wrong calibration

- Detector material?

- High doses out of range of performance?

- TLD reader: counting mode / current mode?

- Detector material?
- Filter ticknesses?
- Algorithm?

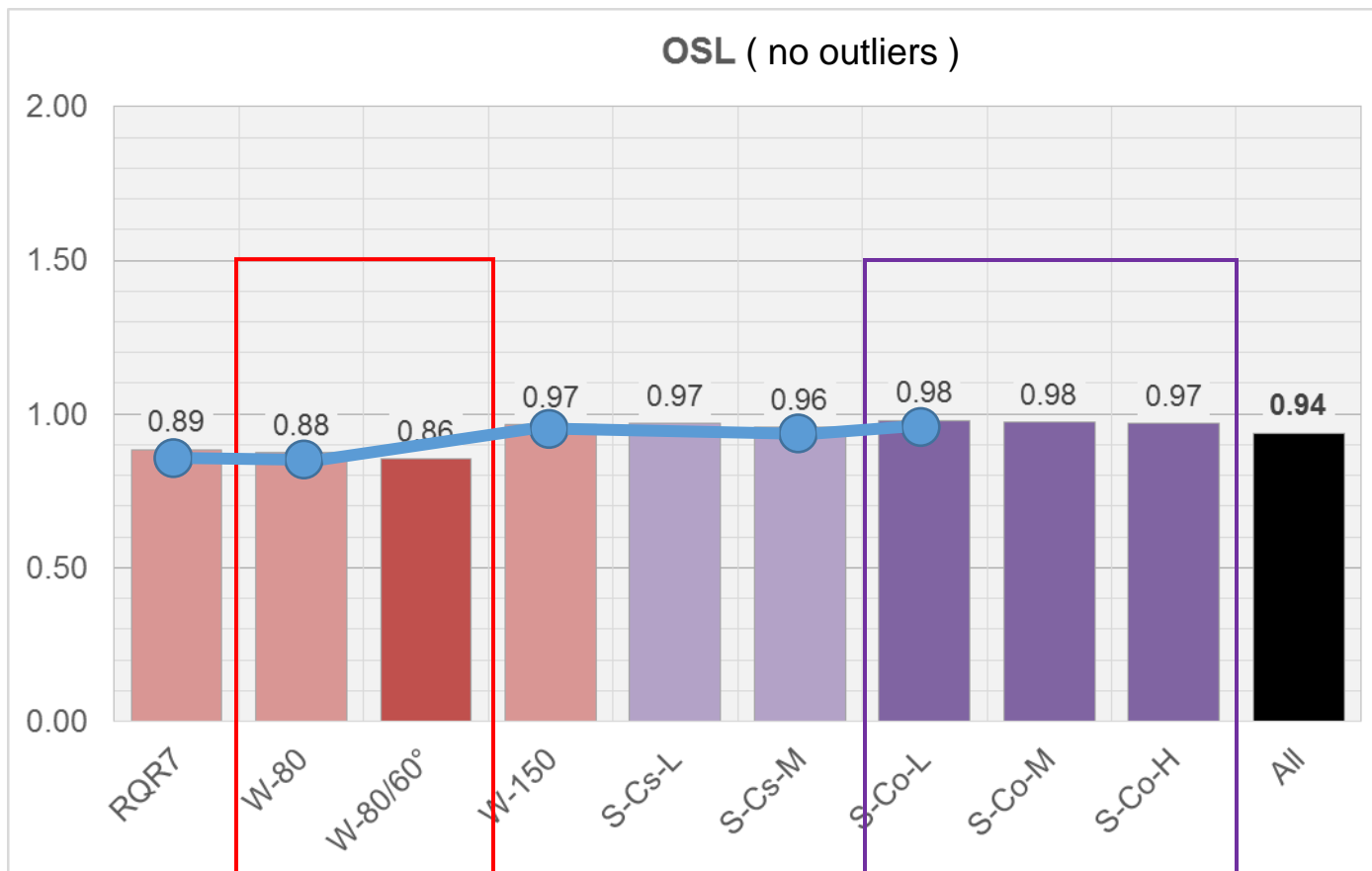TLD ( no outliers )

- Very good performance!

International Conference on Individual Monitoring of Ionising Radiation
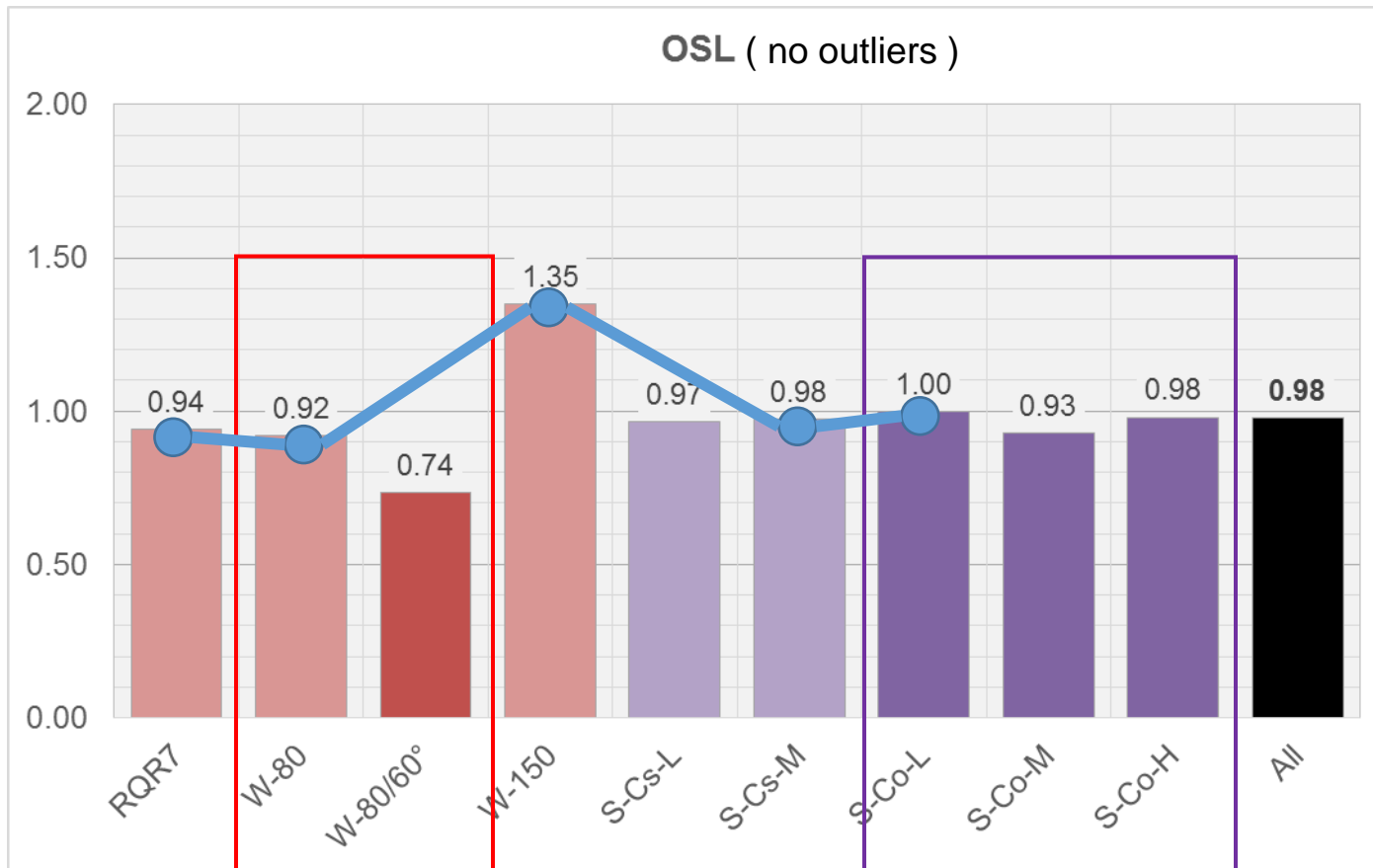April 20-24, 2015, Bruges, Belgium
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SEIBERSDORF
LABORATORIES

TLD ( no outliers )

- Very good performance but... there is still space for improvement by checking calibration (-20%)

# OSL Systems, $H_p(10)$

- Very good performance!
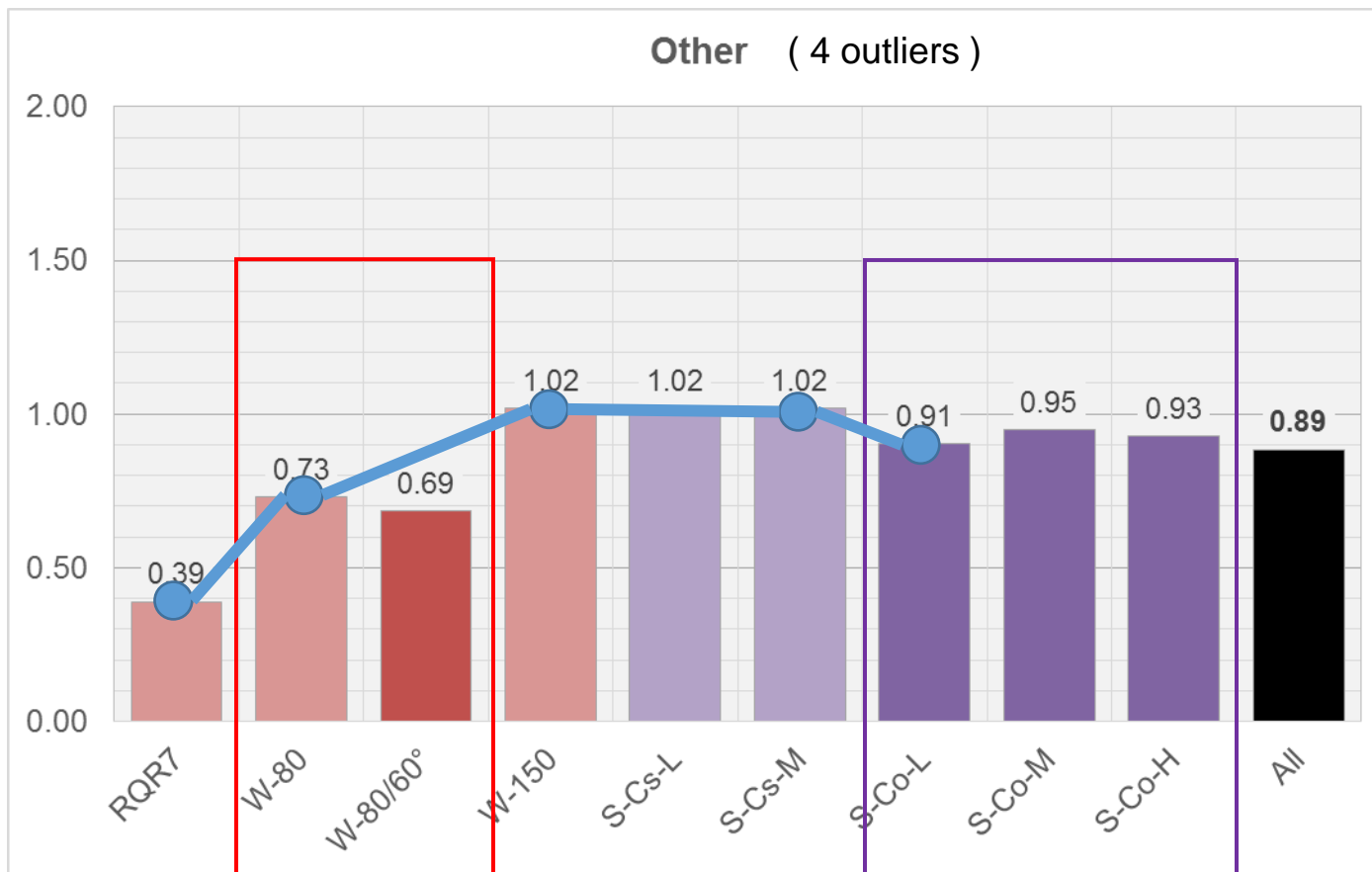
OSL ( no outliers )

- Very good performance, but angular and energy response could be improved?

# OTHER Systems, $H_p(10)$

- Filter thicknesses?

## Conclusions:

- Wide variation of performance for systems of the same type
- No outliers for "OSL systems"
- High dose behavior should be checked for some systems
- Improvement is possible by checking calibration procedures, dose algorithms and badge design.

# Thank you for your attention!
☺