

Single Channel Film Dosimetry

FilmQA XR

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INTERNATIONAL SPECIALTY PRODUCTS

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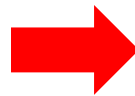
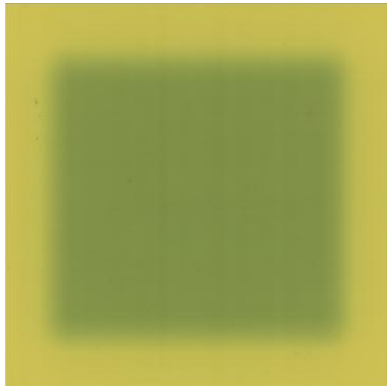
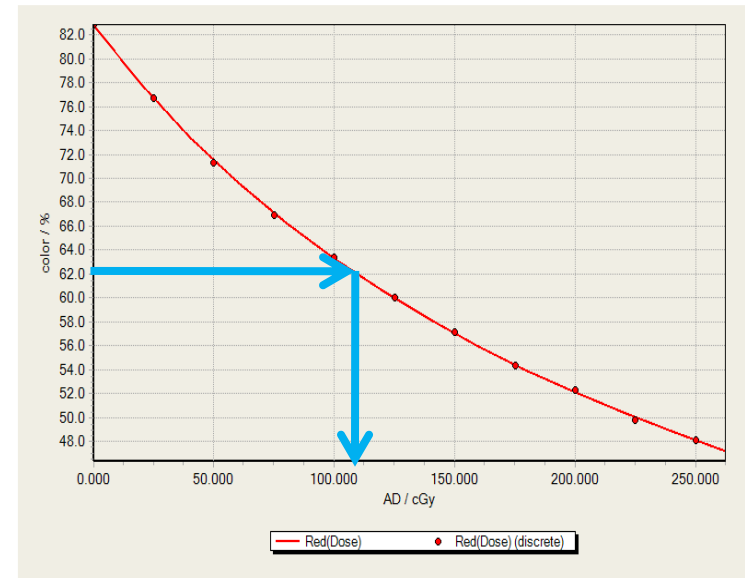


Outline

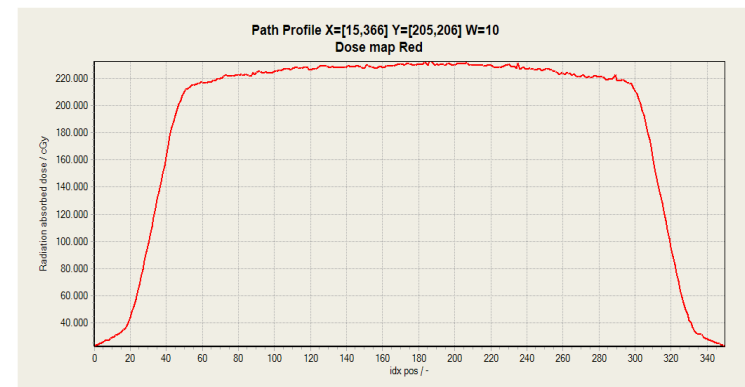
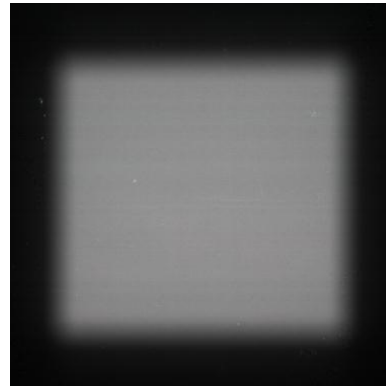
- ✧ Single Channel Dosimetry
- ✧ Best Operating Practice & Error Sources
- ✧ FilmQA XR Example

Single Channel Film Dosimetry

- Calibration Curve $X=R$
 $R_{ave} = R_{ave}(D) \leftrightarrow D=D(R_{ave})$
 - X_{ave} average film response
- Large calibration patches
 - Size min 2"x2" better 4"x4"

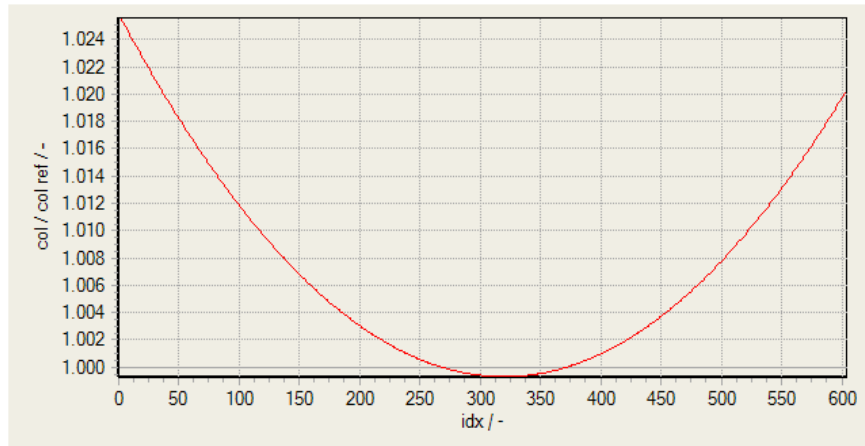


$D=D_x$

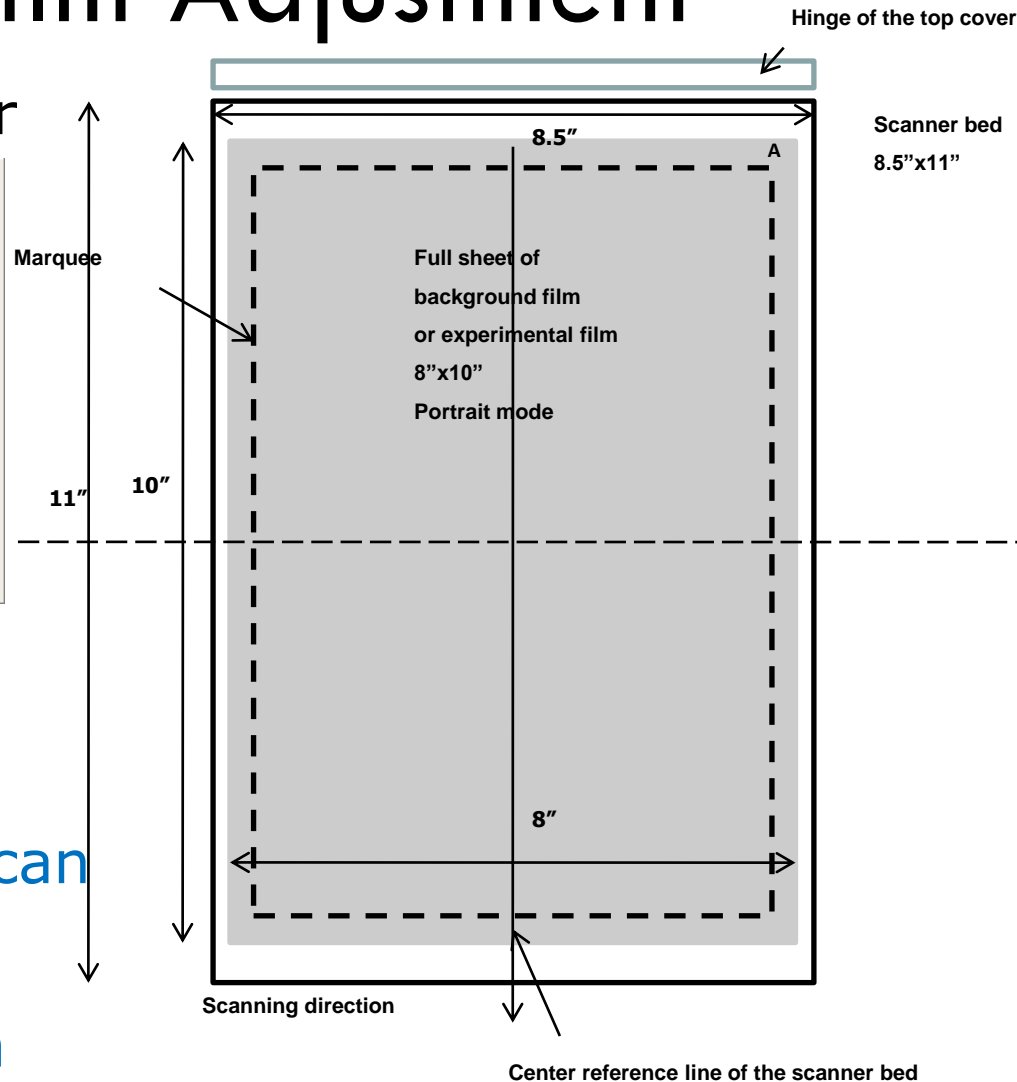


Scanner – Film Adjustment

➤ Scanner lateral non-linear



- GAFChromic Film polarizes
- Light path includes mirrors
- Adjust film to Center in scan direction
- Use same film orientation

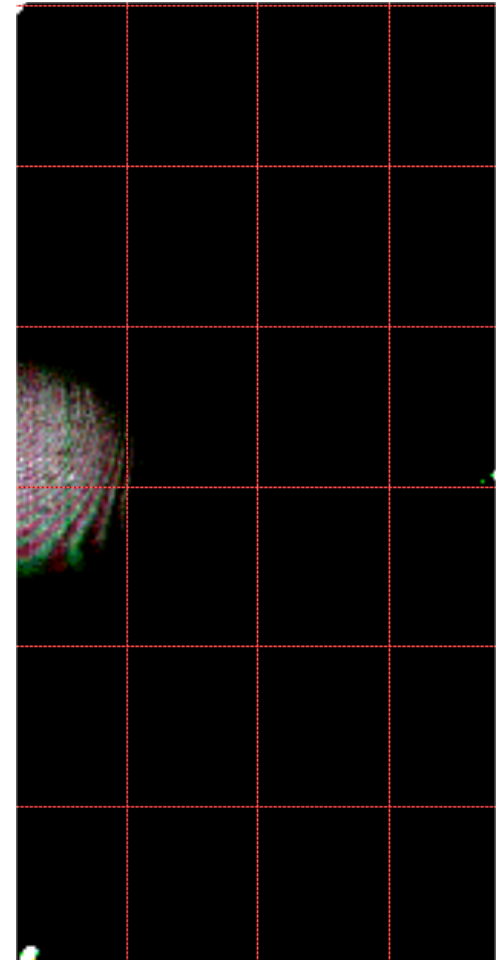


Scanning Distortions

- Newton rings
 - Cause:
Scanner platen - film
contact + moisture
 - Signal variations 'amplified'
by slope of calibration
function
- Keep scanner platen
clean and dry
- Hint of baking powder
avoids scanner platen-
film contact

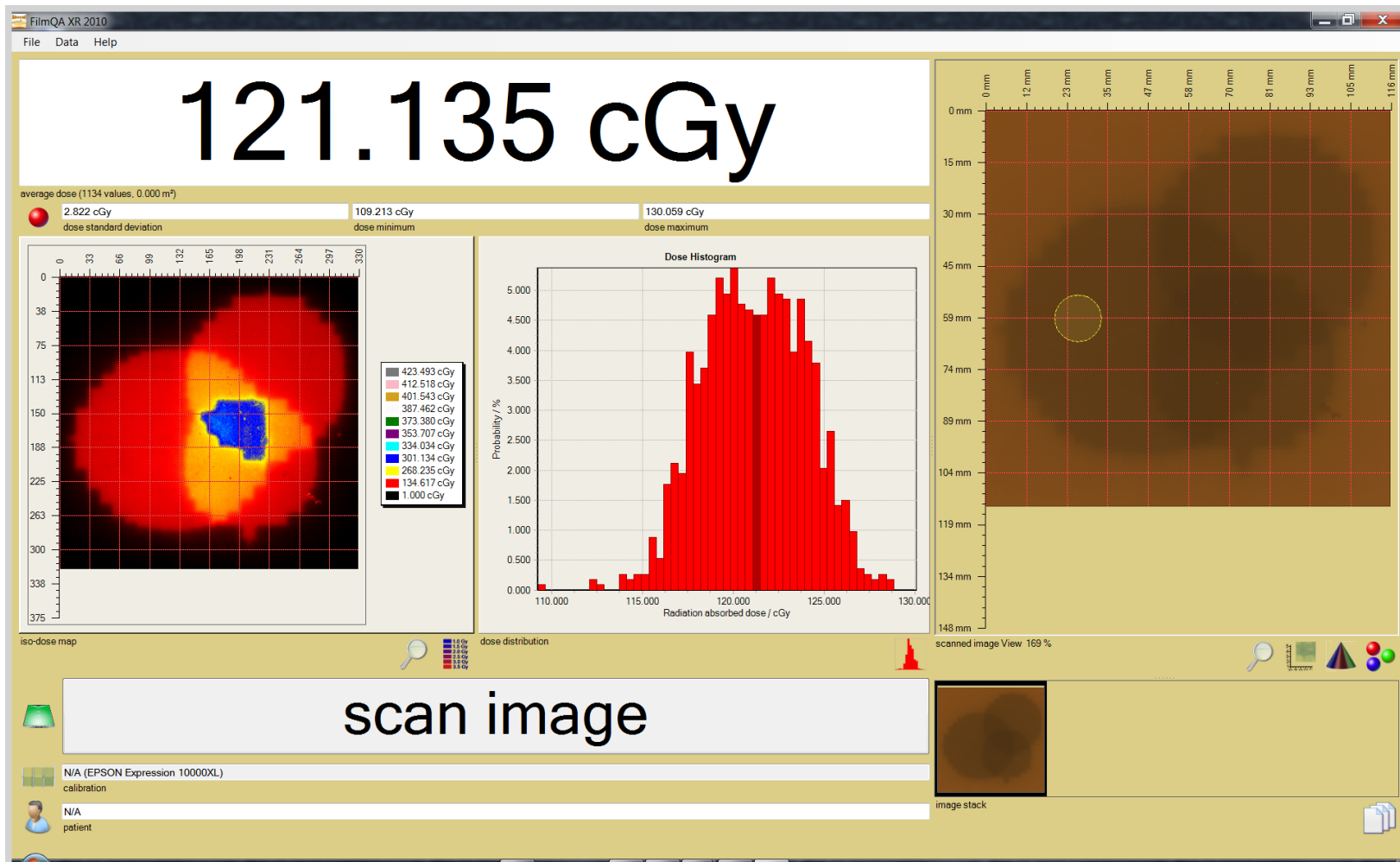


Film Scan



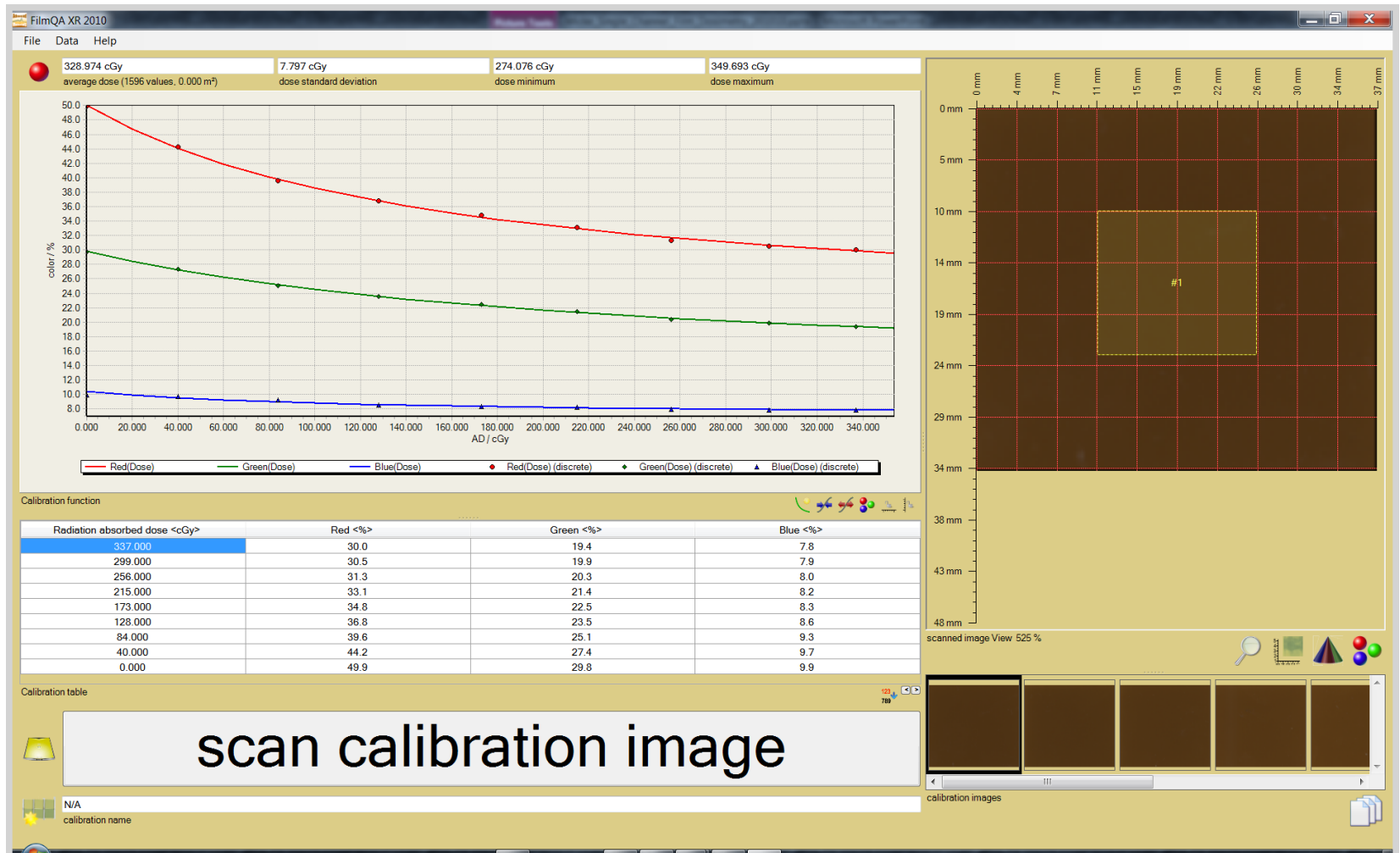
Dose Map

FilmQA XR – Evaluation Mode



Iso-Map, Dose distribution histogram and Scanned XRQA film

FilmQA XR – Calibration Mode



Calibration chart, calibration table and Scanned XRQA calibration patches