

# Emittance measurement and bump studies in EXT line - 28 may 2008 Shift

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- Tune the Damping Ring
- Align OTR
- Vertical bumps at QM7R.1
- Horizontal bumps at QM7R.1

# OTR Tilt

- Camera was aligned to OTR, error still persists
- Did not seem to be all from the beam

# Vertical Bumps

- As much data as possible taken at - 1.0mm, -0.5mm, 0.0mm, 0.5mm and 1.0mm bumps

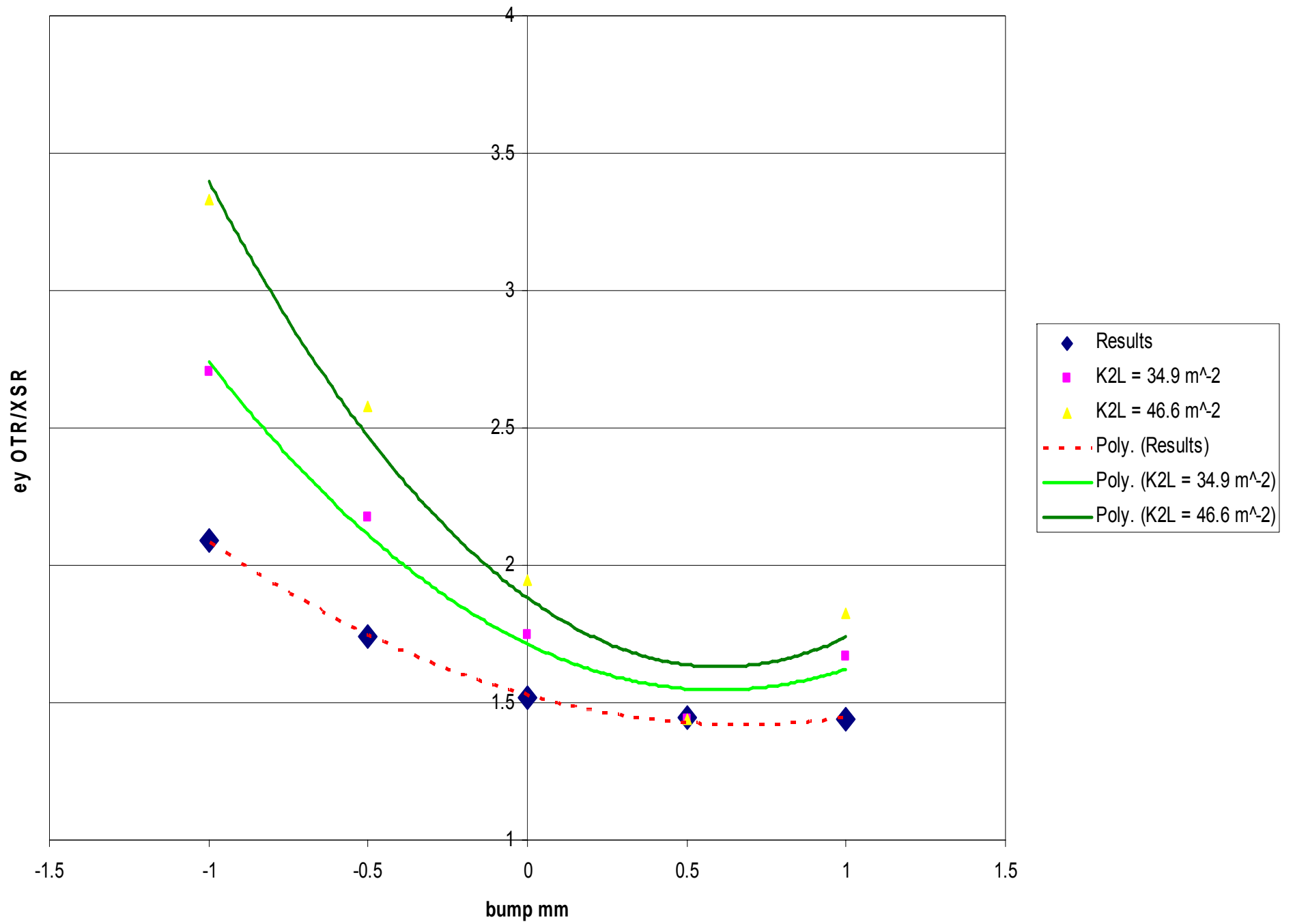
- Theoretical equation:

$$\epsilon y_{proj}^{**2} = \epsilon y_{in}^{**2} + \epsilon x_{in} * \epsilon y_{in} * \text{betax}_{in} * \text{betay}_{in} * K2L^{**2} * DY^{**2}$$

Theoretical K2L range is 34.9 – 46.6 m<sup>\*\*</sup>-2

# Plot

- Assumed no vertical dispersion at XSR, assumed horizontal dispersion at XSR makes up half the beamspace, assumed ordinary vertical off-set at QM7R.1 was 0.5mm (near minimum result), assumed that a 0.44 factor emittance growth appears elsewhere (to fit to 0.5mm value)



# Horizontal Bump

- Some data as possible taken at -1.0mm, -0.5mm, 0.0mm, 0.5mm and 1.0mm bumps