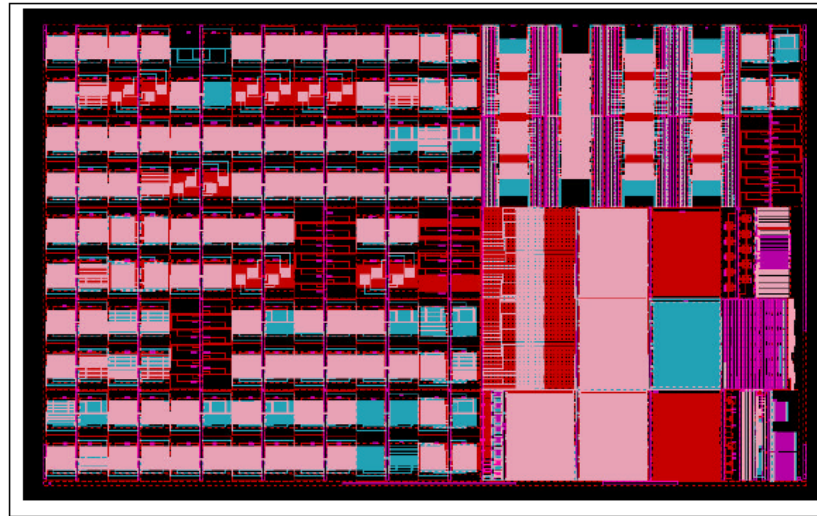

Evaluation of **Edge Over Erosion** using **SKW6-5(0.12um)** Cu test wafer



■ Metal 1 ■ Metal 2 ■ Metal 2 over Metal 1

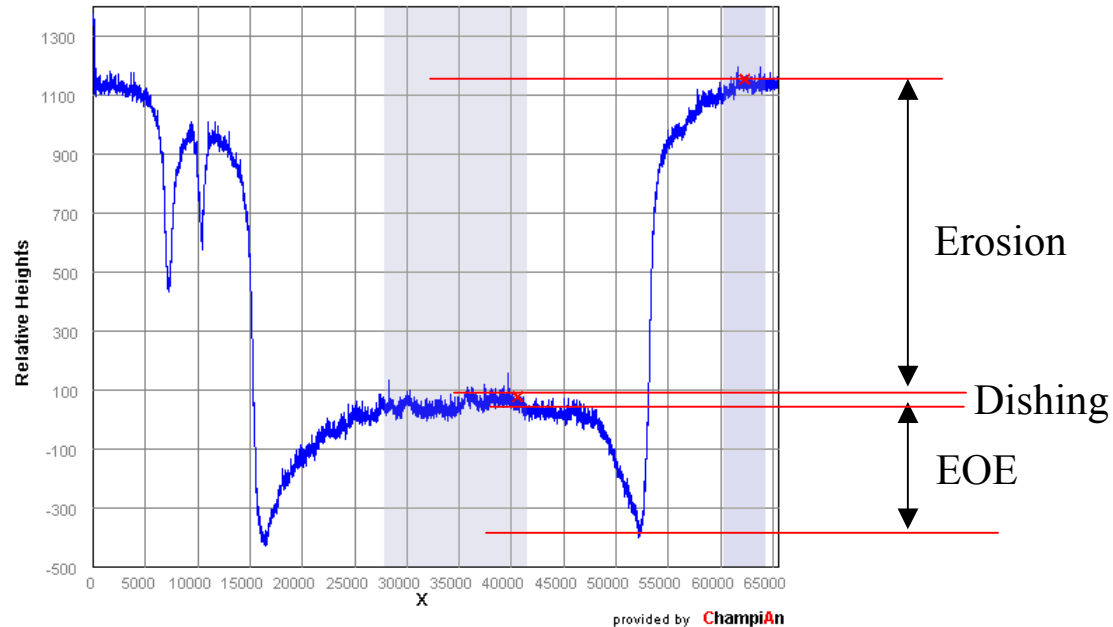
Oct 25, 2004
SKW Associates

Edge Over Erosion (EOE)

■ Definition

Erosion (total) = Erosion + EOE

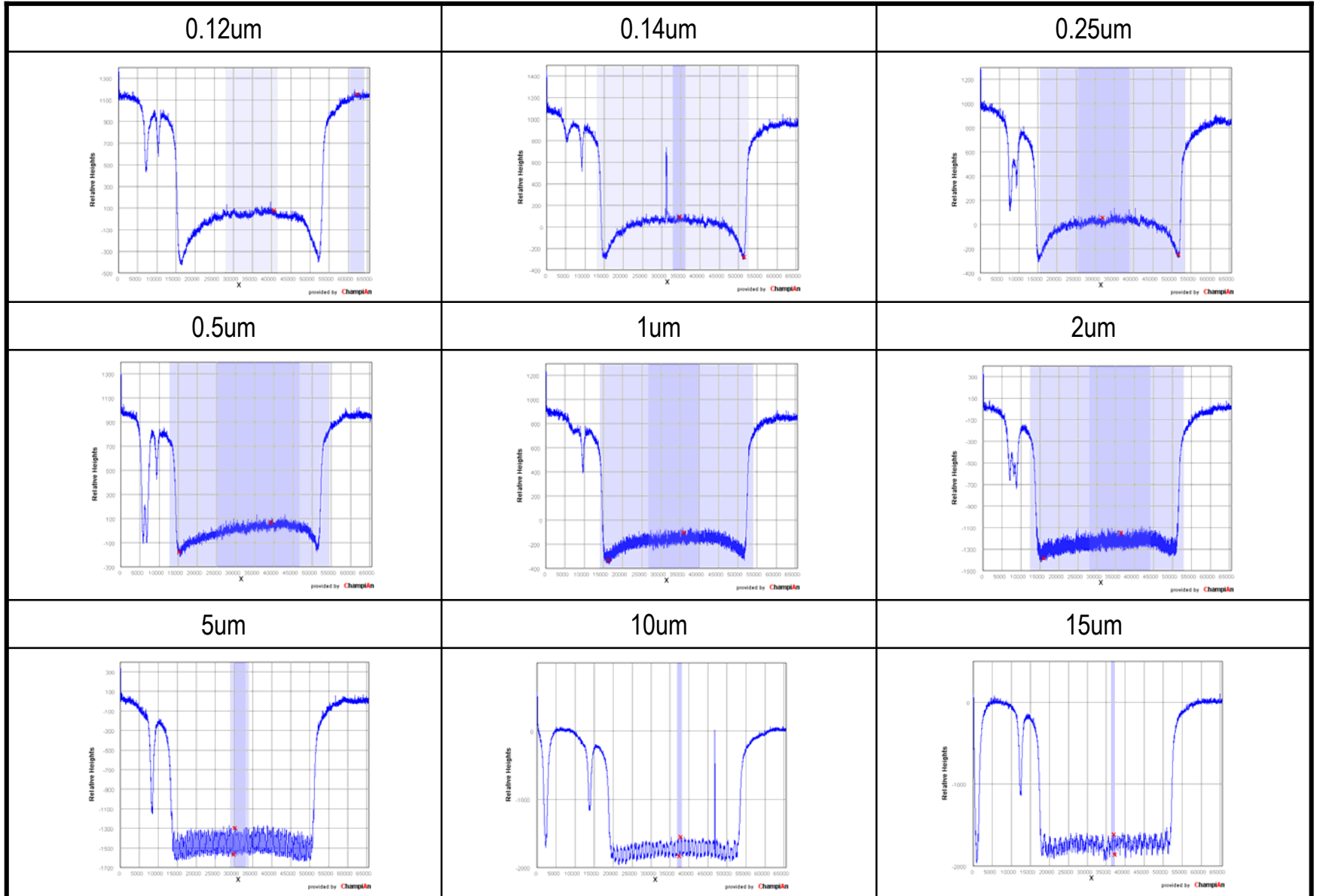
Total Cu loss = Erosion (total) + Dishing



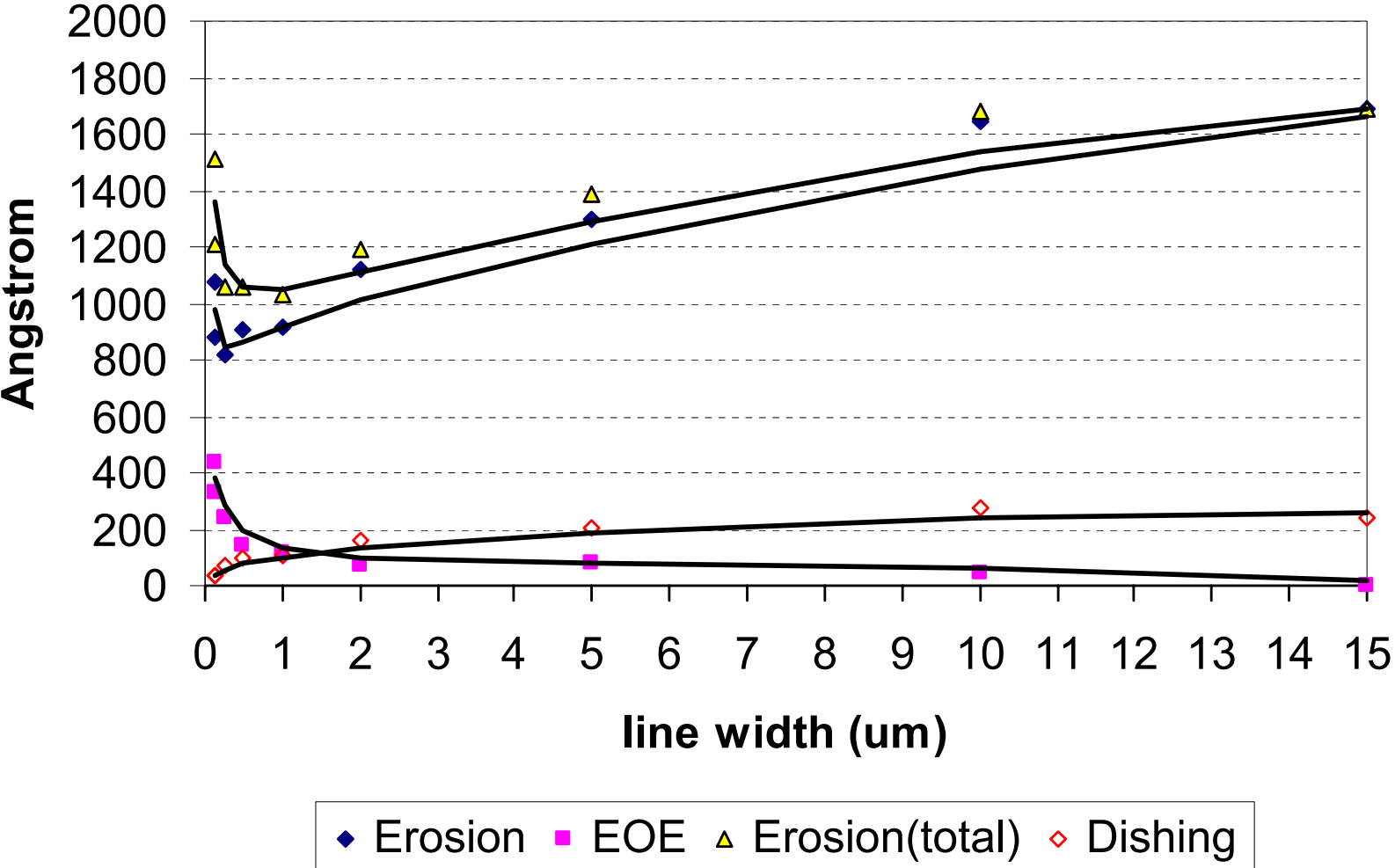
■ Experiments

- (1) Effect of **line widths (0.12~15um)** at 750x750um arrays of PD 50%
- (2) Effect of **pattern density (10~65%)** at 750x750um arrays with 0.25um line width
- (3) Effect of **array size (50x50 ~ 750x750um)** of PD50% with 0.25 & 1 um line width

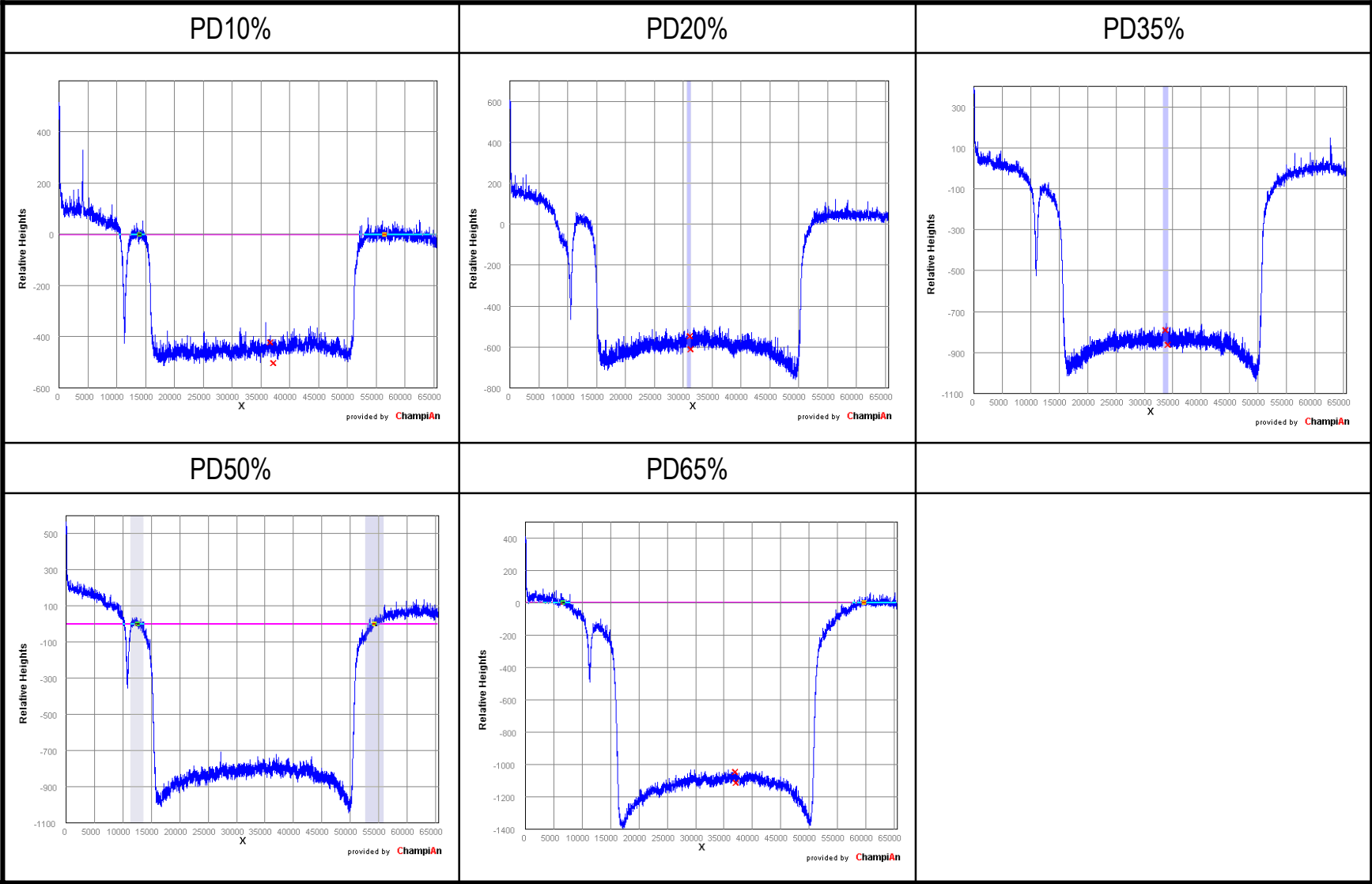
(1) Effect of **line widths (0.12~15um)** at 750x750um arrays of PD 50%



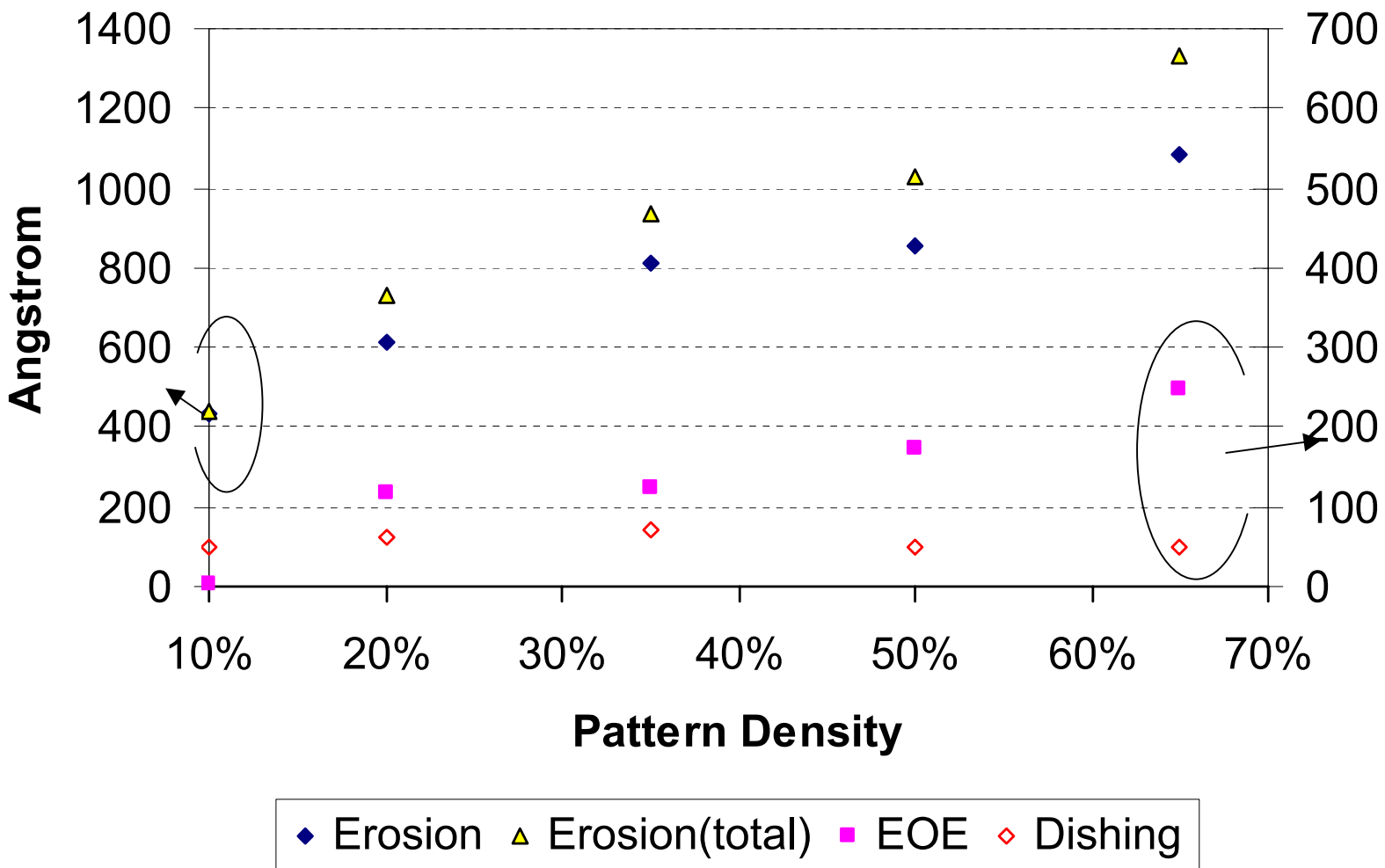
(1) Effect of line widths (0.12~15um) at 750x750um arrays of PD 50%



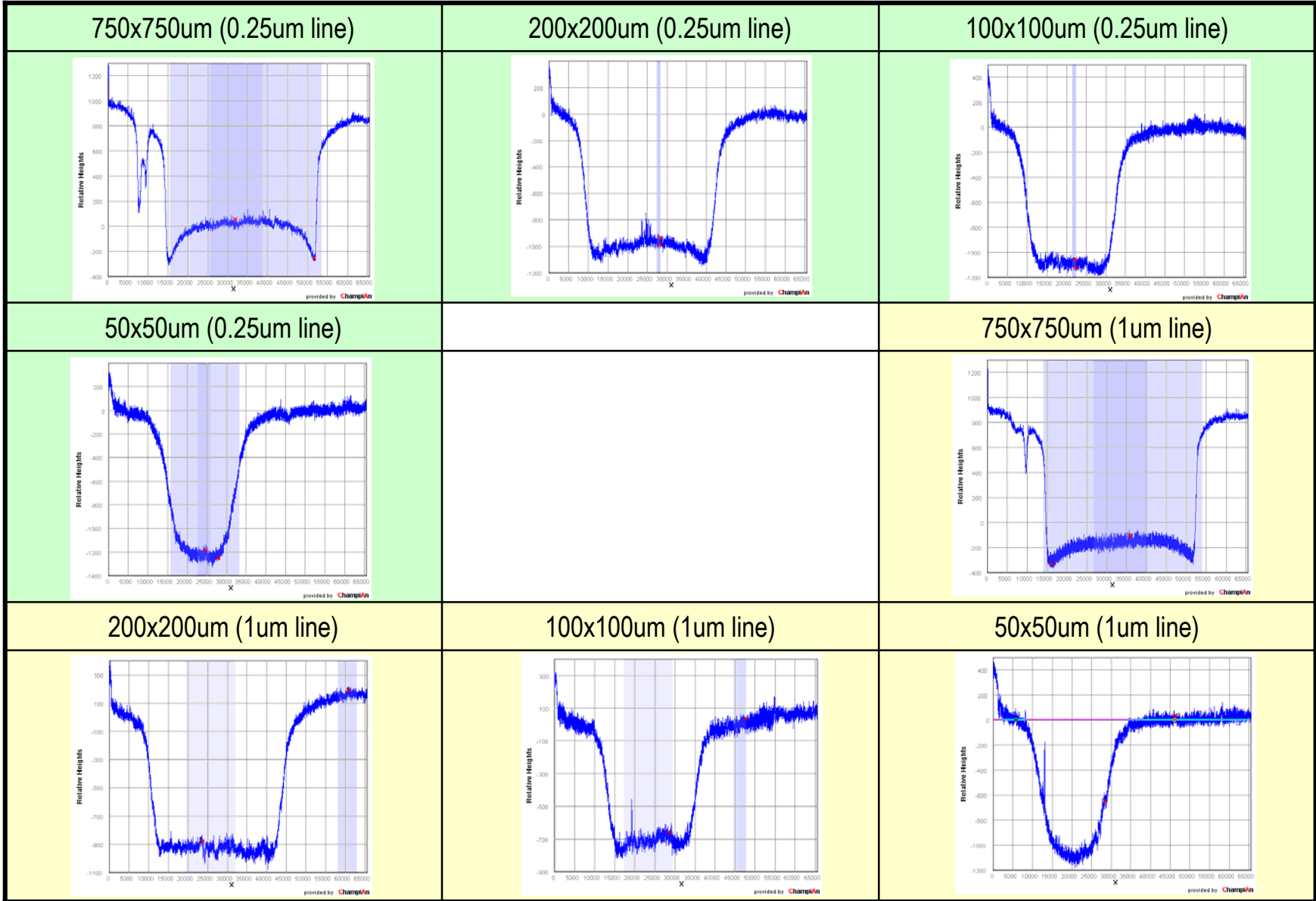
(2) Effect of **pattern density (10~65%)** at 750x750um arrays with 0.25um line width



(2) Effect of pattern density (10~65%) at 750x750um arrays with 0.25um line width



(3) Effect of array size (50x50 ~ 750x750um) of PD50% with 0.25 & 1 um line width



SUMMARY

EOE = F(line width, pattern density, array size)