

Statistics in Asia

Veronica Czitrom, PhD
Statistical Training and Consulting

2006 Joint Research Conference o Statistics
in Quality, Industry and Technology

Statistics in Asia

- Industrial Statistics in Singapore
- Examples of graphical analysis of industrial data

Statistics in Asia

- Statistics in Singapore
 - Good math background
 - DOE compulsory for Engineering Master's at Nanyang Technological University

Statistics in Asia

“Emphasize graphical methods
over hypothesis testing”

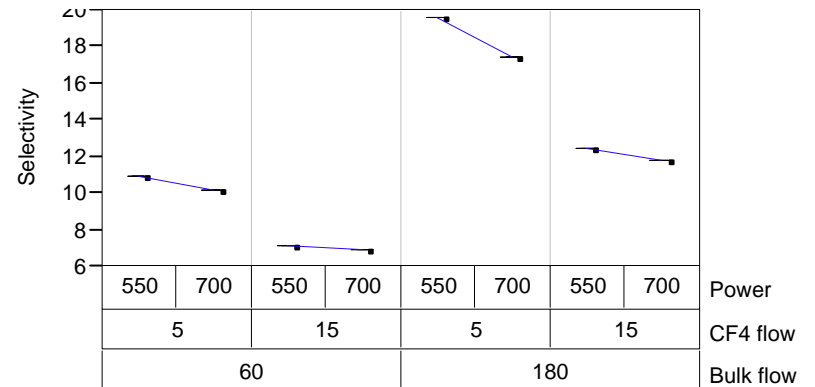
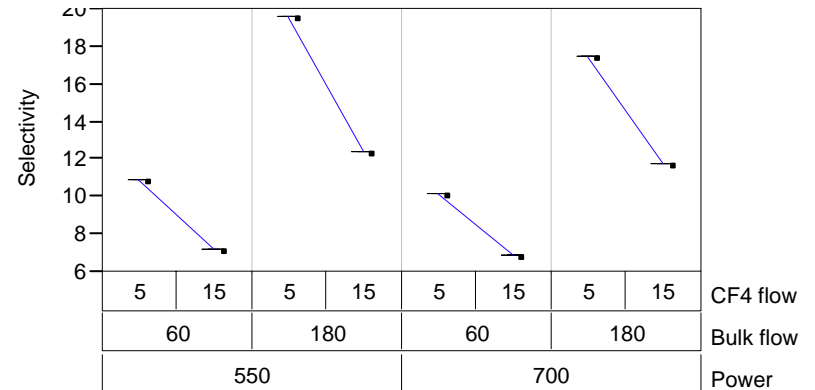
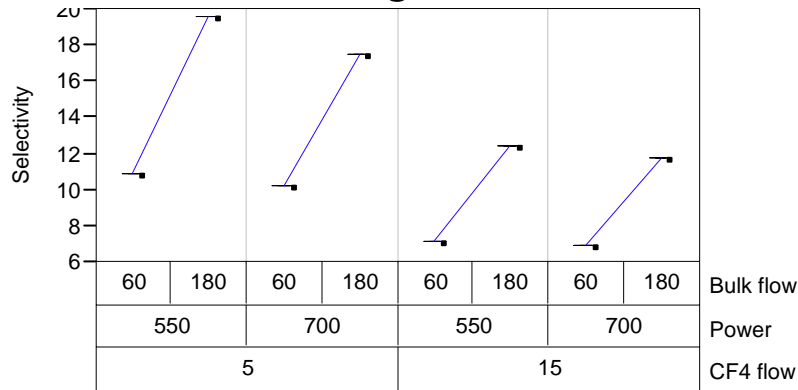
Roger Hoerl

- My approach: heavy emphasis on graphical analysis
 - Successful in Asia, US and Europe
 - Based on Pareto principle: solve bulk of problems using simple graphical analysis

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EXAMPLE: 2^3 DOE

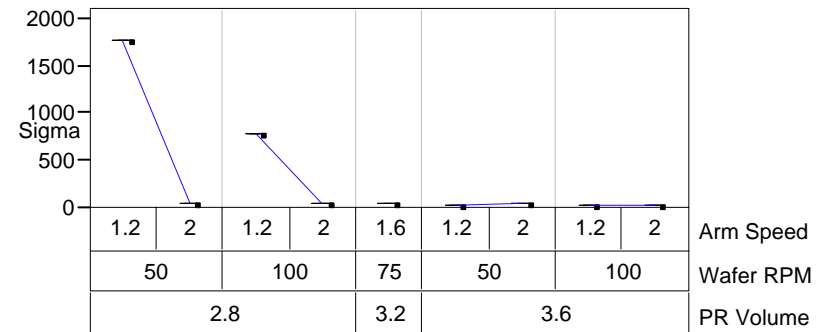
- Variability charts
 - Easily understandable without DOE course
 - Clearly show
 - 3 factor effects
 - Hidden replication
 - Missing observation OK



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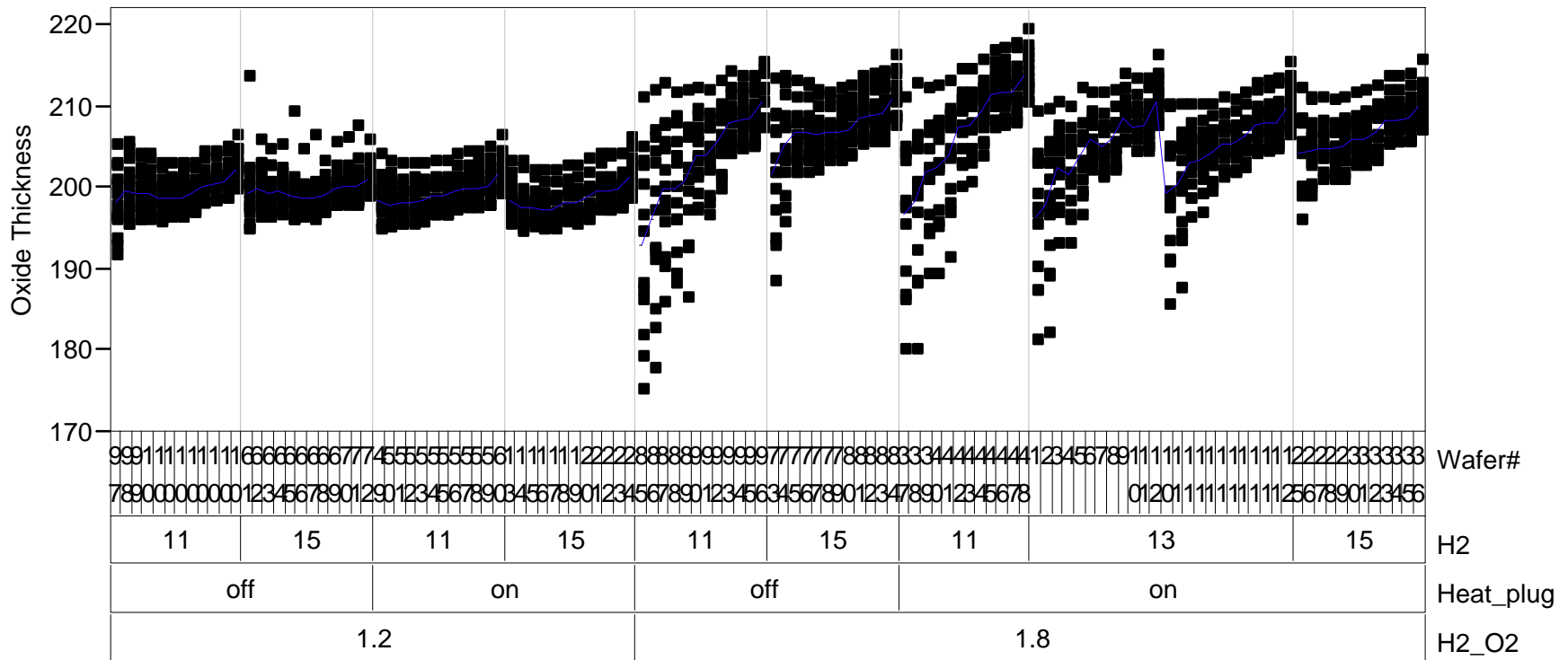
EXAMPLE: 2^3 DOE

- Different slopes reflect Arm Speed by PRS Volume interaction



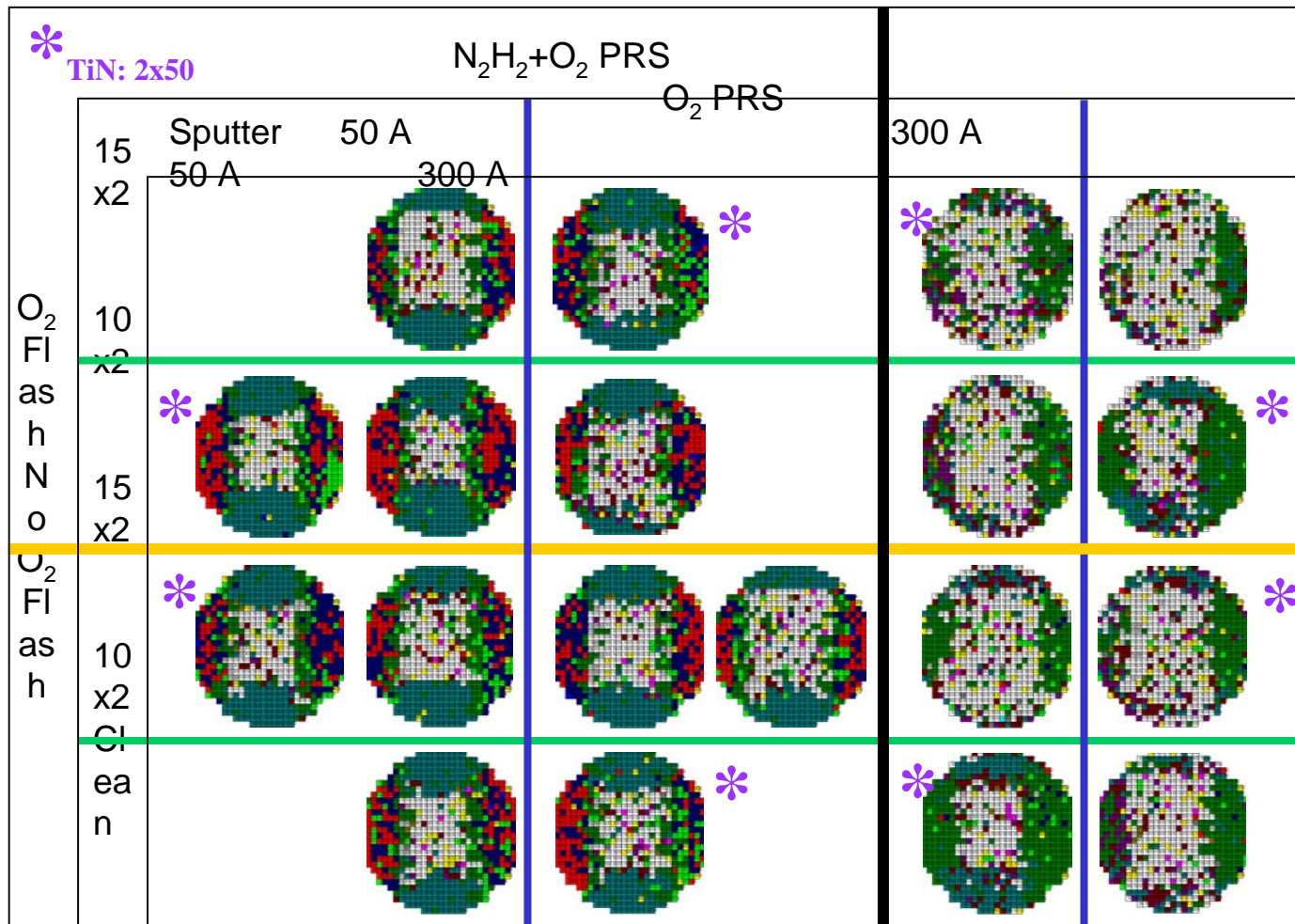
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EXAMPLE: 2^3 DOE, multiple observations



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- EXAMPLE: 2^{5-1} DOE: Compress 9 dimensions into 2



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- Graphical analysis successful in industry