

## 2019 Spring – SPC&O HW#9

1. Read the attached Chapter 4 and use the experimental results from Table 4.4(a), (b) to
  - (a) re-calculate the surface defect and thickness SN ratios using only Test Wafer 1 and Test Wafer 3 data.
  - (b) Plot the surface defect and thickness SN ratio effect plots using only Test Wafer 1 and Test Wafer 3 data.
  - (c) Suggest the optimal factor setting with results of (a) and (b).
  - (d) Use the additive model to predict the results of the suggested optimal factor settings using Test Wafer 1 and Test Wafer 3.
  - (e) Re-do (a)-(d) for Test Wafer 2 and compare and discuss the results.
2. Please find an orthogonal array suitable for an experiment for three 2-level factors and nine 3-level factors. Provide the experimental matrix.