

PubH 8400/2 Spring 2008 Homework #3 2/12/08

Do #1 below and either #2 OR #3

① Derive the degrees of freedom in the fitted values for Smoothed ANOVA (page I02/10 of transparencies)

Hint: Remember $A_1'A_1 = cn I_M$, $A_2'A_2 = cn I_N$, $A_1'A_2 = 0$

② Fit to the pig-jawbone data at least one of the additive models, i.e.,

$$H_{ij} = (\text{effect for lines}) + (\text{spline in distance}) + \epsilon_{ij}$$

for some model on lines (fixed effect is OK).

- Use any kind of spline you want, use the software of your choice, etc but BE EXPLICIT in your writing.

③ Fit a smoothed ANOVA to the polishability data.

Some possibilities:

- Use a different basis (columns of A_1 & A_2)

- Use REML instead of Bayes.

- Use a different $j(k)$ than I used in grouping columns

- Try something you think is interesting and BE EXPLICIT!