LOWESS ± SD M 384G/374G

To obtain the lowess estimates lowess ± SD:

Notation: To distinguish estimates from parameters or true values, we'll use a hat (^) over estimates.

1. Smooth to get the lowess estimate $\hat{E}$ (y|x)) of E(y|x).

2. Let

$\hat{e}^2$ = [y - $\hat{E}$ (y|x)]^2 -- the "squared residual"

It's an estimate of [y - E(y|x)]^2

Recalling the definition of Var, we can consider

E($\hat{e}^2$|x)

as an estimate of Var(y|x).

3. Use smoothing to get an estimate $\hat{E}$ ($\hat{e}^2$|x) of E($\hat{e}^2$|x)

4. $\widehat{\text{SD}} = \sqrt{\hat{E}(\hat{e}^2 \mid x)}$