

# $C_p$

$C_p$  is used in model selection to compare the performance of different models.

$$C_p = \frac{1}{n} \left( \text{RSS} + 2d\hat{\sigma}^2 \right)$$

The penalty to adjust for the fact that training data underestimates the test error.

Number of observations

Residual Sum of squares

Number of features

Estimated error variance