

Rothkopf's Morse Data

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Here are some analyses of the Rothkopf Morse data, using a variety of loss functions. All analyses are metric and two-dimensional. We used the asymmetric confusion matrix and defined a dissimilarity by the Shepard-Luce like formula

$$\delta_{ij} = -\log \frac{p_{ij}p_{ji}}{p_{ii}p_{jj}}.$$

The fivenum for these data is

```
[1] 0.000000 2.438489 3.944610 5.329541 8.350312
```

Thus data are fairly symmetric, a bit skewed to the left, with a median around four and values between zero and ten,

There are four analyses.

1. Huber with cut-off 25, well outside the range, de facto least squares loss.
2. Huber with cut-off .01, de facto least absolute value loss.
3. Huber with cut-off 4, around the median.
4. Tukey with cut-off 4, around the median.

In the last three analyses, especially in the fourth, the large residuals are down-weighted. An infinite number of other analyses are possible. I am taking requests.

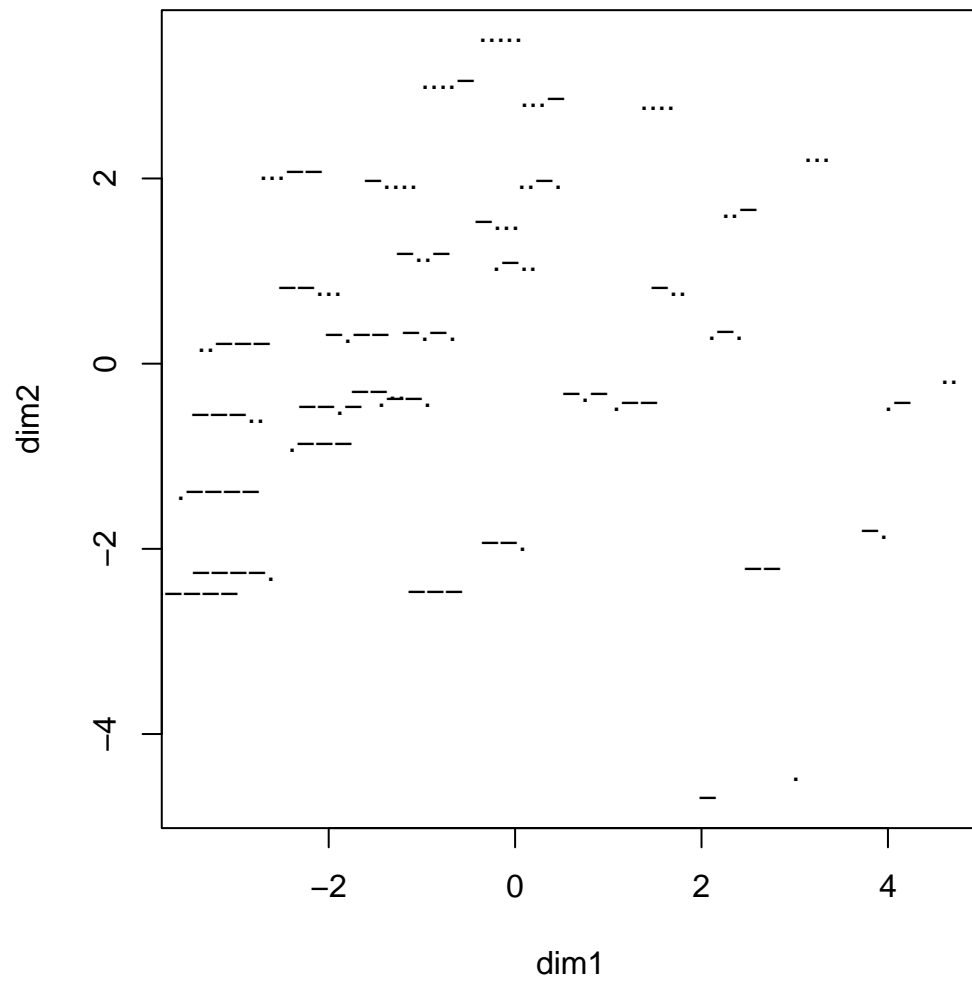


Figure 1: Configuration Least Squares

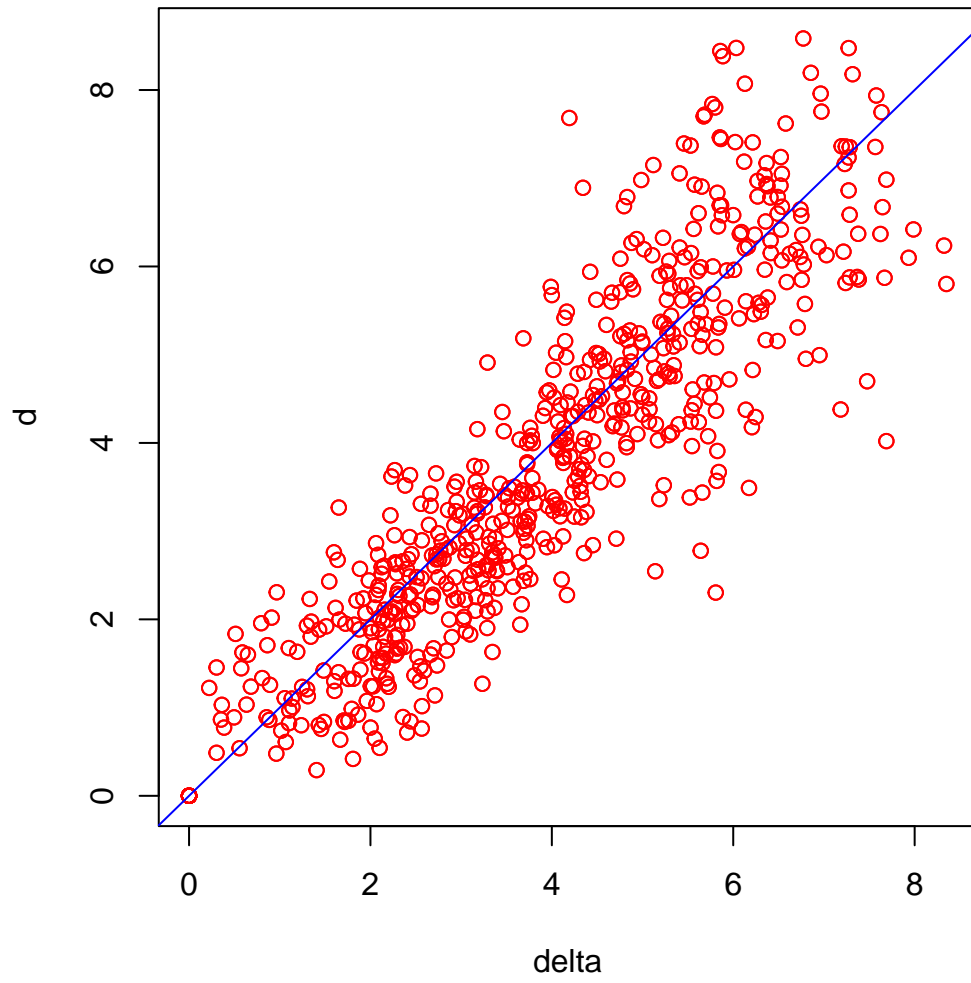


Figure 2: Shepard Plot Least Squares

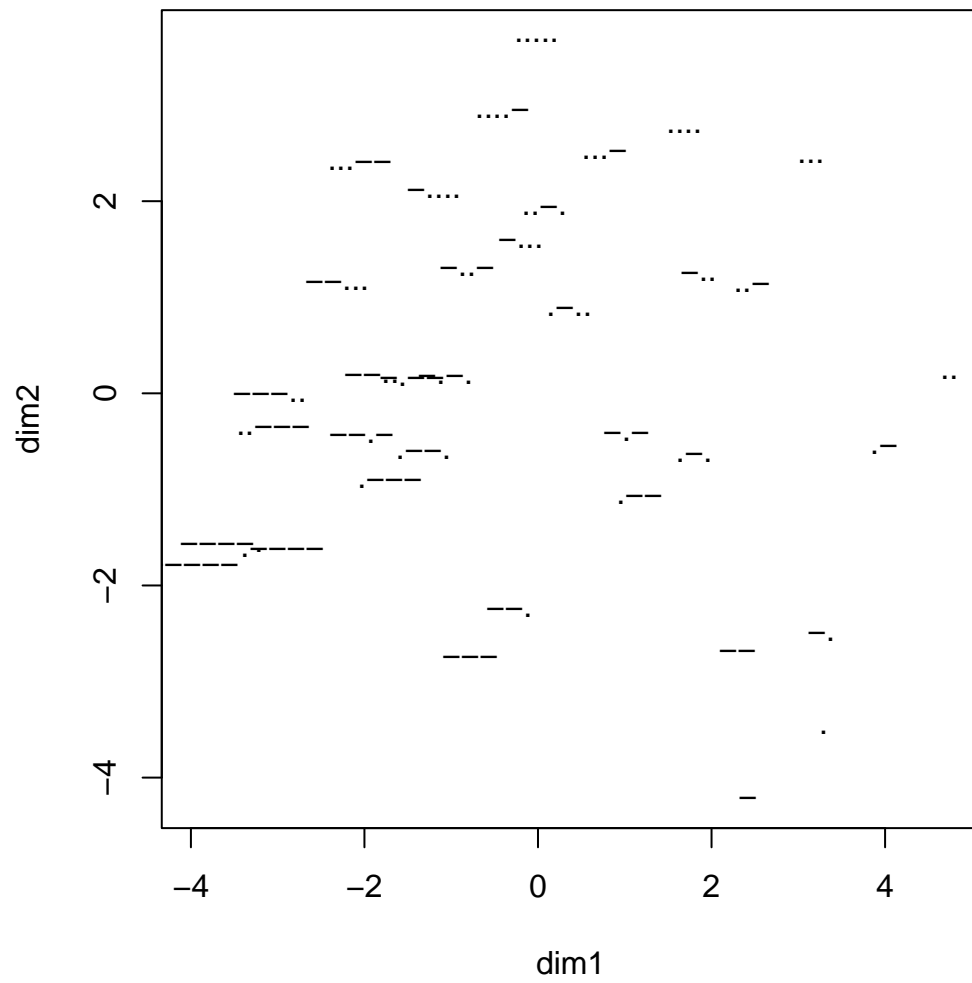


Figure 3: Configuration Least Absolute Value

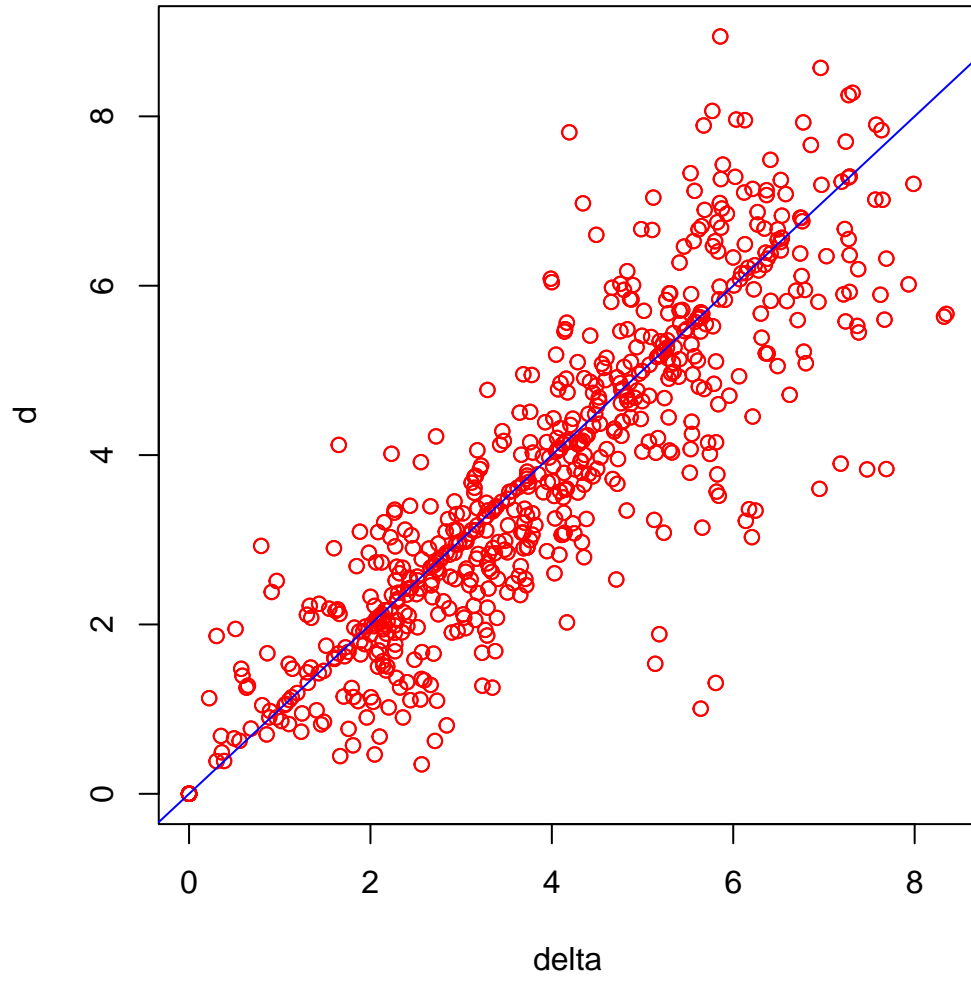


Figure 4: Shepard Plot Least Absolute Value

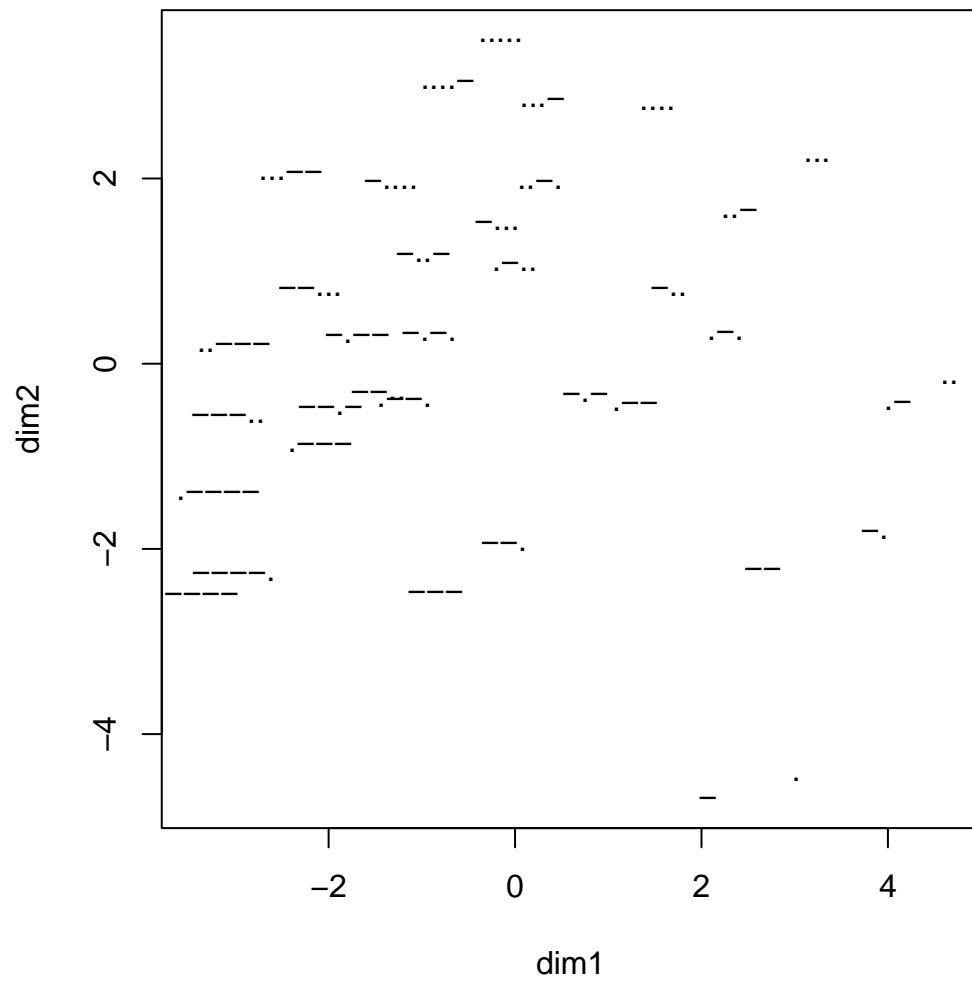


Figure 5: Configuration Median Huber

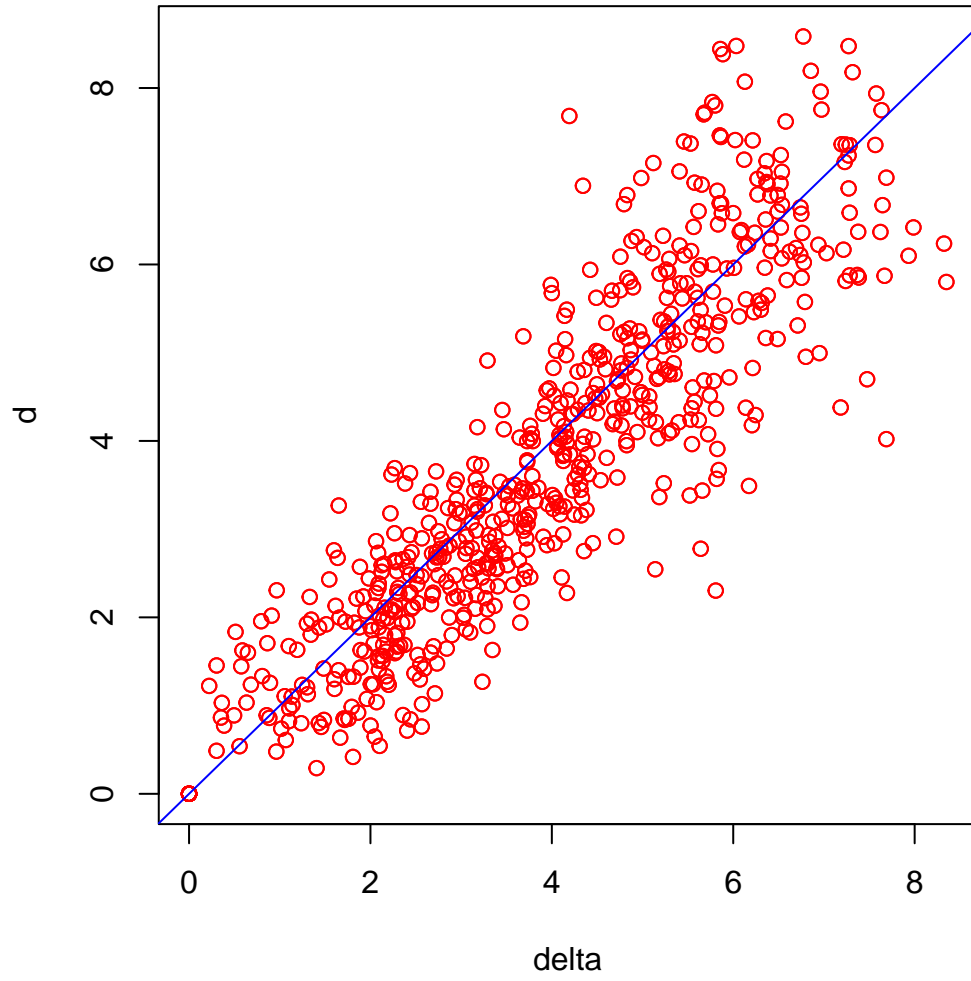


Figure 6: Shepard Plot Median Huber

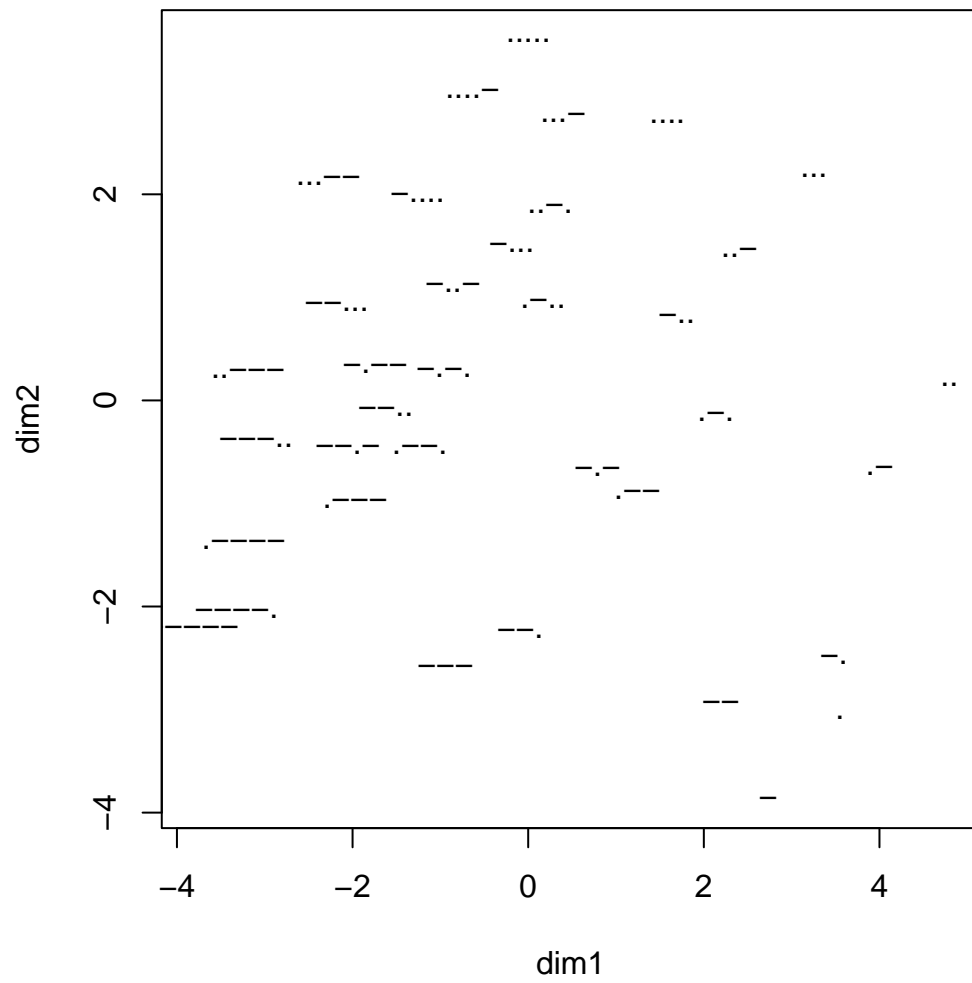


Figure 7: Configuration Median Tukey

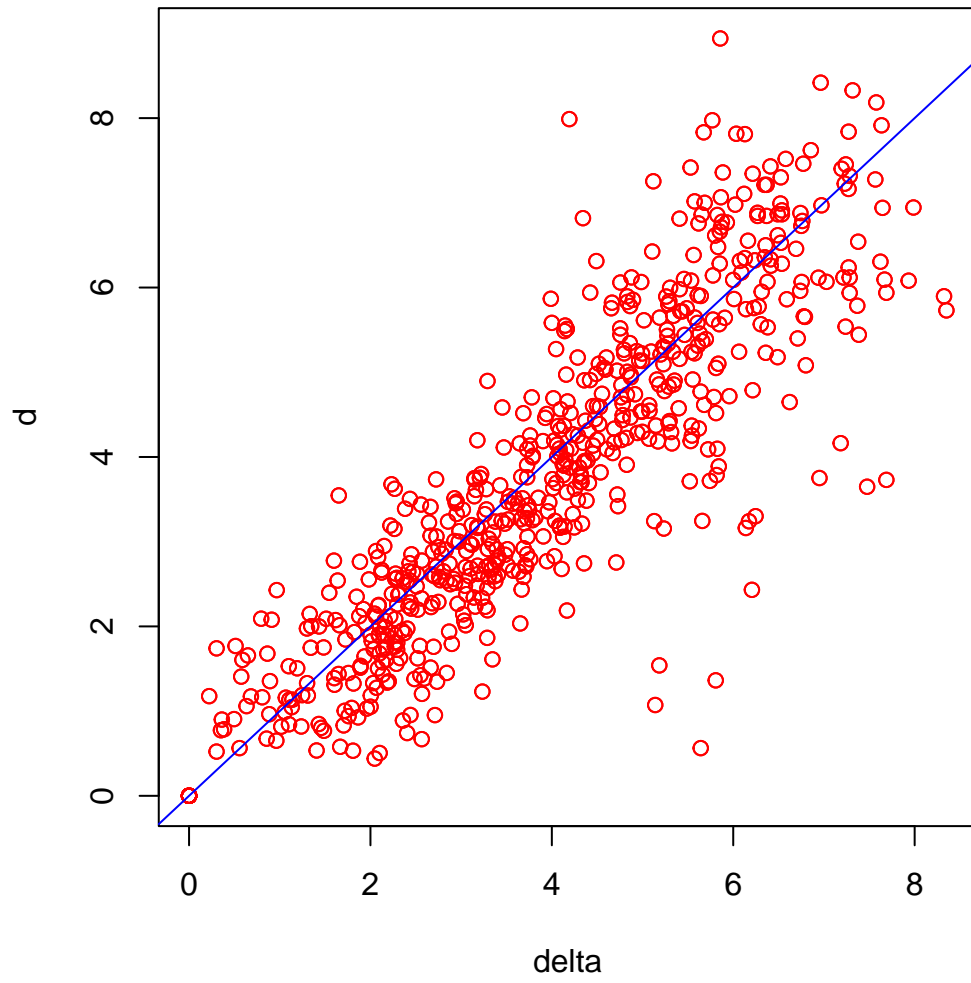


Figure 8: Shepard Plot Median Tukey