

**VISUAL METHODS FOR DATA FROM TWO FACTOR
SINGLE-REPLICATE GENE EXPRESSION STUDIES**

by

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ABSTRACT

This paper describes visual methods for analyzing microarray data, in the context of general methodology for multivariate data visualization. There is a worked example focusing on an experimental study containing two factors, and hence four treatments, each with two replicates. Variation in gene expression due to treatment in comparison to variation in replication, and variation in expression levels amongst all genes, is explored. Linked scatterplots and profile plots are used along with repeated measures plots. This research describes how to use graphics and numerical methods for exploratory analysis of gene expression data.