The Analysis of Oligonucleotide Arrays: A Signal Processing Viewpoint

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Abstract: Oligonucleotide expression arrays such as the Affymetrix platform exhibit systematic and reproducible variation produced by the multiple distinct probes used to represent a gene. We have developed analytic results on the efficiency of model-based estimates of expression and describe a study design for empirical comparison of the estimates. We discuss the importance of the signal to noise ratio as a recurrent guiding principle for improvements in our approach.