

# **Bayes factors based on test statistics, applied to false discovery rates**

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Traditionally, the use of Bayes factors has required the specification of proper prior distributions on model parameters implicit to both null and alternative hypotheses. In this talk, I describe an approach to defining Bayes factors based on modeling test statistics. Because the distributions of test statistics do not depend on unknown model parameters, this approach eliminates much of the subjectivity normally associated with the definition of Bayes factors. For standard test statistics, including the  $\chi^2$ ,  $F$ ,  $t$  and  $z$  statistics, the values of Bayes factors that result from this approach can be simply expressed in closed form.