OPTIMIZING SEQUENTIAL TESTING OF MULTIPLE HYPOTHESES

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Many sequential statistical experiments are conducted for the purpose of simultaneous testing of multiple hypotheses. In such studies, it is necessary to reach a statistical decision for each individual hypothesis instead of combining them and giving one answer to the resulting composite hypothesis.

Our goal is to optimize sequential experiments that involve multiple comparisons by minimizing the expected sample size under a strong simultaneous control of Type I and Type II familywise error rates. We introduce stepwise, minimax, weighted methods, and their generalizations for this problem and discuss the associated error spending and applications.

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References

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