Update on Bayesian Blocks: Segmented Models for Sequential Data

Jeff Scargle
NASA Ames Research Center
Mail Stop 245-3
Moffett Field, CA 94035  USA
jeffrey.d.scargle@nasa.gov
+1 650-604-6330 (office)

Abstract

The Bayesian Block algorithm, in wide use in astronomy and other areas, has been improved in several ways. The model for block shape has been generalized to include other than constant signal rate -- e.g., linear, exponential, or other parametric models. In addition the computational efficiency has been improved, so that instead of $O(N^2)$ the basic algorithm is $O(N)$ in most cases. Other improvements in the theory and application of segmented representations will be described.