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On the precision matrix of an irregularly sampled AR(1) process

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Abstract

This text presents an analytical expression for the inverse covariance matrix of a stationary AR(1) process with Gaussian errors, sampled with irregular spacing. Due to the sparse form of this matrix, considerable improvement in the computational cost of density evaluation and random number generation (both unconditional and conditional) can be made, and these points are discussed as well.

Keywords: AR(1) process, time series, precision matrix, missing data.

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