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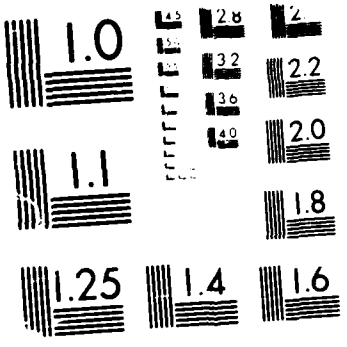

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The applicability of tractable first-order non-Gaussian models for the ambient noise probability distribution is investigated. The models considered here are the Gauss-Gauss mixture model and the Johnson S system of probability density functions. The moment generating function method is used to fit the sample data to the Gauss-Gauss mixture model while the method of quantile matching is used to fit the data to the Johnson probability density functions. The results show that the Johnson system may be computationally more tractable in its application and more robust to nonstationary behavior in the data.

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ON MODELING THE DISTRIBUTION OF NON-GAUSSIAN AMBIENT NOISE

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ABSTRACT

The applicability of tractable first-order non-Gaussian models for the ambient noise probability distribtion is investigated. The models considered here are the Gauss-Gauss mixture model and the Johnson S system of probability density functions. The moment generating function method is used to fit the sample data to the Gauss-Gauss mixture model while the method of quantile matching is used to fit the data to the Johnson probability density functions. The results show that the Johnson system may be computationally more tractable in its application and more robust to nonstationary behavior in the data.

This paper is to be presented at the 19th Symposium on the Interface of Computer Science and Statistics at Temple University, Philadelphia, PA on March 10, 1987.

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