



# Research Letters in Signal Processing

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Research Letter

## Generalized Cumulative Residual Entropy for Distributions with Unrestricted Supports

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### Abstract

We consider the cumulative residual entropy (CRE) a recently introduced measure of entropy. While in previous works distributions with positive support are considered, we generalize the definition of CRE to the case of distributions with general support. We show that several interesting properties of the earlier CRE remain valid and supply further properties and insight to problems such as maximum CRE power moment problems. In addition, we show that this generalized CRE can be used as an alternative to differential entropy to derive information-based optimization criteria for system identification purpose.