
An interval calculus based approach to determining the area of integration of the entropy

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The paper considers the problem of numerical computation of a definite integral of the entropy function over a wide, potentially unbounded, domain. As there are efficient approaches to compute the quadrature over a finite (hyper)rectangle, it may be challenging to bound the whole domain, out of which the function is negligible. An approach based on the interval analysis is proposed in this paper. Preliminary numerical results are also discussed.

Keywords: interval computations, entropy, integration, numerical quadrature, heuristics.