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Density reconstruction via maximum entropy method AUSTIN MCDONALD, RAYMOND ATTA-FYNN, Department of Physics, University of Texas at Arlington, PARTHAPRATIM BISWAS, Department of Physics and Astronomy, The University of Southern Mississippi — We demonstrate an application of the maximum entropy principle by employing the Shannon entropy functional to reconstruct functions that are otherwise non-trivial to reproduce by existing reconstruction techniques. Specifically, we present the reconstruction of the Dirac comb by maximizing the Shannon entropy subject to the moment constraints using Monte-Carlo type and population-based approaches. The results are compared with the existing results in the literature and the convergence properties of the resulting distributions are examined in relation to the number of input moments.

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