

Converse to the Sherman Inequality with Applications in Information Theory

Authors : Ana Barbir, S. Ivelic Bradanovic, D. Pecaric, J. Pecaric

Abstract : We proved a converse to Sherman's inequality. Using the concept of f-divergence we obtained some inequalities for the well-known entropies, such as Shannon entropies that have many applications in many applied sciences, for example, in information theory, biology and economics Zipf-Mandelbrot law gave improvement in account for the low-rankwords in corpus. Applications of Zipf-Mandelbrot law can be found in linguistics, information sciences and also mostly applicable in ecological eld studies. We also introduced an entropy by applying the Zipf-Mandelbrot law and derived some related inequalities.

Keywords : f-divergence, majorization inequality, Sherman inequality, Zipf-Mandelbrot entropy

Conference Title : ICCAM 2021 : International Conference on Computational and Applied Mathematics

Conference Location : Paris, France

Conference Dates : January 25-26, 2021