

## AN INEQUALITY FOR THE BINARY ENTROPY FUNCTION AND AN APPLICATION TO BINOMIAL COEFFICIENTS

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*Abstract.* We prove a tight inequality of non-exponential type for a weighted geometric mean commonly appearing when using Stirling's approximation (also frequently studied in its logarithmic form when computing entropies). As an application we prove corollaries involving binomial coefficients.

*Mathematics subject classification (2010):* Primary: 26E60, Secondary: 26D15, 05A10, 26D20.

*Keywords and phrases:* Weighted geometric mean, binary entropy function, Stirling approximation, binomial coefficient.

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