

Limiting behavior of relative Rényi entropy in a non-regular location shift family

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Received: 6 July 2006 / Revised: 28 November 2007 / Published online: 13 July 2008
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Abstract We calculate the limiting behavior of relative Rényi entropy between adjacent two probability distribution in a non-regular location-shift family which is generated by a probability distribution whose support is an interval or a half-line. This limit can be regarded as a generalization of Fisher information, and seems closely related to information geometry and large deviation theory.

Keywords Relative Rényi entropy · α -divergence · Information geometry · Non-regular location shift family