

Transport proofs of some discrete variants of the Prékopa-Leindler inequality

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Abstract. We give a transport proof of a discrete version of the displacement convexity of entropy on integers (\mathbb{Z}), and get, as a consequence, two discrete forms of the Prékopa-Leindler inequality: the Four Functions theorem of Ahlswede and Daykin on the discrete hypercube [1] and a recent result on \mathbb{Z} due to Klartag and Lehec [18].

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