

Discrepancy and energy optimization on the sphere

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There are many different ways to measure how well a discrete set is distributed in a given domain, in particular, on the sphere: discrepancy and discrete energy are among the most popular ones. In various situations these two objects turn out to be intricately related to each other: the classical Stolarsky principle is the most famous example of this phenomenon. We shall present a non-technical survey of old and recent results and interactions between these areas, as well as connections to problems in other fields: combinatorial geometry, one bit-compressed sensing, embeddings of metric spaces, etc.