

VECTOR-VALUED VALUATIONS ON CONVEX FUNCTIONS

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(Joint work with Fabian Mussnig)

Following the work of A.Colesanti, M.Ludwig, and F.Mussnig, who established a functional version of Hadwiger's theorem which characterizes functional intrinsic volumes on the space of convex super-coercive functions, we explore a novel family of valuations. Specifically, we characterize continuous, $\mathbb{R}^n$ -valued, epi-translation invariant and rotation equivariant valuations and show that they can be constructed using Hessian measures. These valuations are derived from a Steiner formula applied to a functional version of the moment vector. We also establish integral geometric formulas for these valuations.