

A GENERALIZATION OF GODBERSEN'S CONJECTURE

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The long-standing Godbersen's conjecture asserts that the Rogers–Shephard inequality for the volume of the difference body is refined by an inequality for the mixed volume of a convex body and its reflection in the origin. The conjecture is known in several special cases, notably for anti-blocking convex bodies. In this talk, we will propose a generalization of Godbersen's conjecture that refines Schneider's generalization of the Rogers–Shephard inequality to higher-order difference bodies and we will show it is true for anti-blocking convex bodies. We will also present an equivalent formulation of our conjecture in terms of the Alesker product of smooth, translation invariant valuations.