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Higher-order Petty's projection inequality

In 1970 Schneider defined and studied the higher order difference body $D^\ell K \subseteq \mathbb{R}^{nm}$ of a convex body $K \subseteq \mathbb{R}^n$. Inspired by the connection of the difference body and the projection body through the covariogram function, we define the higher-order projection body and prove the corresponding Petty projection inequality. The result uses a volume-increasing fiber symmetrization method.

(joint work with D. LANGHARST, E. PUTTERMAN, M. ROYSDON AND D. YE)