A metric-free duality framework via Nijenhuis-deformed brackets

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We develop an analogue of the Fisher-Efron-Amari framework in a setting without Fisher information in its classical role as a Riemannian metric. The aim is to understand which duality-type notions can be formulated using the differential structure alone. We show that within the classical Lie-bracket framework a natural conjugacy requirement for derivations is rigid and collapses to the usual Lie derivative. To obtain non-trivial conjugate pairs, we consider Nijenhuis deformations of the bracket determined by a $(1,1)$-tensor field N. In this N-deformed setting we obtain genuinely new conjugate pairs, including a canonical construction when N is invertible and further explicit examples in selected non-invertible cases.

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