

CONFIGURATION AND DIFFERENTIAL INVARIANTS

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We study the relation between the notions of configuration and differential invariants for a G -manifold. The configuration invariants are G -invariant functions defined in the cartesian powers of the G -manifold. Configuration invariants are simpler to understand and to compute than differential invariants, since the prolongation algorithm is just the repetition of the action and does not involve derivation. There is a simpler version of the Lie-Tresse theorem for configuration invariants. We present a general framework that allows to compute the differential invariants associated to a G -manifold from its configuration invariants.

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