
ROMAN SMIRNOV, Dalhousie University

Joint invariants and resultants of Killing tensors in classical mechanics

We introduce the notion of a resultant of Killing tensors (KTs) in the general framework of the invariant theory of Killing tensors. Just like in the classical invariant theory of homogeneous polynomials it is based on the corresponding notion of a joint invariant. Using the properties of resultants of KT's we derive a new geometric (or, equivalently, algebraic) characterization of the Kepler potential in classical mechanics.

This is joint work with Caroline Adlam and Ray McLenaghan.