FRANCIS VALIQUETTE, Dalhousie University

Group foliation of differential equations using moving frames

We incorporate the new theory of equivariant moving frames for Lie pseudo-groups into Vessiot's method of group foliation of differential equations. The automorphic system is replaced by a set of reconstruction equations on the pseudo-group jets. The result is a completely algorithmic and symbolic procedure for finding invariant and non-invariant solutions of differential equations admitting a symmetry group.

Joint work with Robert Thompson.