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*Geometric methods for semi-invariants of quivers: from theorems to software*

Powerful methods in Invariant theory based on the Luna etale slice theorem can be applied to the semi-invariants of quivers (see arXiv:math/0502156), with closed orbits corresponding to locally semi-simple representations. Using the Derksen-Weyman algorithm for generic decomposition, I found effective algorithms for Schofield perpendicular categories and for generic locally semi-simple decomposition (see arXiv:0708.4189). I will demo a computer program TETIVA based on these algorithms.