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A Singular computation of the Poincaré-Hopf index of real-analytic vector fields

In this talk we present a generalized algebraic index formula for certain class of real-analytic vector fields with non-algebraically isolated singularities. In the algebraically isolated case, we compute the index with the library PHindex writing for the software Singular, using the Eisenbud–Levine–Khimshiashvili's algebraic index formula.