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Titolo: *Polynomial Equations, Rationality, and Atoms.*

Abstract: A classical problem in algebraic geometry asks when the solution space of a system of polynomial equations can be parametrized by rational functions. Recently, Katzarkov, Kontsevich, Pantev, and Yu introduced a theory of atoms of algebraic varieties, with striking applications to birational geometry and, in particular, to questions of rationality. In this talk I will give an introductory account of some of the main ideas behind this theory. I will then explain how normal forms for certain meromorphic connections naturally lead to a notion of residual atoms, in which part of the information carried by an atom can be encoded by residues.