

# PICARD-VESSIOT EXTENSIONS, DIFFERENTIAL GALOIS GROUPOIDS AND HOPF ALGEBROIDS

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Abstract: Let us consider a linear differential matrix equation with coefficients in the coordinate ring of the complex affine line. Attached to this equation, there are three fundamental objects: The PV extension of the base algebra, the differential Galois groupoid, and a certain Hopf sub-algebroid of the finite dual of the differential operators algebra. Our aim in this talk is to review briefly the constructions of these objects and try to explain how they are related to each other.