

# Stokes geometry of higher order ODEs and middle convolution

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The middle convolution, first introduced by Katz and later developed by Dettweiler-Reiter, Oshima and others, defines an operation of reduction of linear ordinary differential equations with polynomial coefficients. In this talk, employing an idea of the exact steepest descent method proposed by Aoki-Kawai-Takei, we study the structure of the complete Stokes geometry (or equivalently the Borel summability of WKB solutions) of a higher order linear ordinary differential equation with a large parameter when it is reduced to a second order equation via middle convolution.

This is a joint work with Takahiro Moteki.