

The Magnus expansion with the Laplace transform method for linear differential equations

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The Laplace transform method is efficient for solving parabolic problems whose coefficients are time independent. However the method is inappropriate to deal with problems whose coefficients are time dependent. We can solve the difficulty with the aid of the Magnus expansion. In this talk, we combine the Laplace transform method and the method of Magnus expansion to solve time dependent evolution equation. Numerical results that confirm efficiency are presented