

High-order stroboscopic averaging methods for highly oscillatory delay problems

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In this talk we introduce and analyze heterogeneous multiscale methods for the numerical integration of highly oscillatory systems of delay differential equations with constant delays. The methodology suggested provides algorithms of arbitrarily high order, which are based on the idea of the stroboscopic averaging method for highly oscillatory ordinary differential equations. Numerical experiments illustrating the performance of the methods are also reported.

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