

# Numerical analysis of delay equations with applications

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## **Abstract**

As with ordinary differential equations (ODEs), delay differential equations (DDEs) generally have to be solved numerically. The standard approach to do this is to look at existing ODE methods and extend them to accommodate the delay terms. However there is a lot to consider when making this extension, especially when the delay is state-dependent. For instance, explicit numerical schemes may become implicit schemes in the presence of vanishing delays. In this talk we will consider this and other issues that arise when numerically integrating delay equations.