

New method for solving differential equations

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Dutch-sponsored mathematician Valeriu Savcenco has developed new methods for the numerical solution of ordinary differential equations. These so-called multirate methods are highly efficient for large systems, where some components exhibit more active behaviour than others within the same system.

Countless phenomena in various technological and scientific fields are formed by systems of ordinary differential equations. However for large systems of such equations, some components can exhibit more active behaviour than others.

Multirate methods can be a highly efficient approach for solving such problems numerically. In these methods a large time step can be taken for slowly varying components and small steps for components with a more rapid variation. Valeriu Savcenco discusses the design, analysis and experimental results of multirate methods for the numerical solution of ordinary differential equations.

This project is being carried out within the NWO Open Competition (now: Free Competition). The project is the first to have won the Peterich Prize. The Free Competition is intended for the best scientific project proposals that do not fall under the NWO themes.

Source: Netherlands Organization for Scientific Research

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