Mathematical Biology/PIMS-AMI Seminar

Monday, December 18, 2017
3 pm – 457 CAB

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Midpoint Rule as a Structure-Preserving Integrator

Midpoint rule is a numerical integrator for ordinary differential equations. When used to simulate mechanical systems, it may reveal various structure-preserving features, such as symplecticity. The talk will discuss the variational origins and structure-preserving properties of this integrator when calculations are carried out relative to a moving frame. Numerical simulations of skate's dynamics and rotating controlled rigid body will illustrate the theory.

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