



**Czech Society for Mechanics
and Institute of Thermomechanics, CAS**

invite you to a lecture and discussion within
the lecture series **Institute of Thermomechanics Seminar**

2D DISCRETE SPECTRAL ANALYSIS – A TOOL FOR EXAMINING OF COMPLICATED WAVE STRUCTURES

given by

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in collaboration with Mart Ratas

In case of 1D wave propagation the discrete spectral analysis is very helpful method in order to analyze the space-time behavior of different wave structures. Here we generalize the method to 2D case. The Kadomtsev–Petviashvili equation is applied as a model equation. For numerical integration the pseudo-spectral method is applied. We demonstrate how 2D spectral characteristics can be applied for analysis of complicated wave structures that can be formed from different initial pulses in case of the Kadomtsev–Petviashvili equation. Recurrence phenomenon, temporal periodicity and temporal symmetry of the solution will be discussed.

**The lecture will be held on Monday, October 2, 2017 at 10:00 in the building
of the Institute of Thermodynamics (lecture room B), Dolejškova 5, 182 00 Prague 8**