

## Colloquium

### Continuation method for time-periodic traveling-wave solutions to evolution equations

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**時 間：**107 年 4 月 18 日(三) 14 : 30

**地 點：**應用數學系多媒體教室 (理 408 室)

**摘 要：**

A numerical continuation method is developed to follow time-periodic travelling-wave solutions of both local and non-local evolution partial differential equations (PDEs). It is found that the equation for the speed of the moving coordinate can be derived naturally from the governing equations together with the condition that breaks the translational symmetry. The derived system of equations allows one to follow the branch of travelling-wave solutions as well as solutions that are time-periodic in a frame of reference travelling at a constant speed. Finally, we show as an example the bifurcation and stability analysis of single and double-pulse waves in long-wave models of electrified falling films.