

PHYSICAL MATHEMATICS SEMINAR

Flow structure beneath rotational water waves

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ABSTRACT:

We consider nonlinear periodic water waves and study numerically the flow structure (for example particle trajectories) beneath a travelling Stokes wave. Of particular interest, we explore the flow structure generated by periodic surface waves in the presence of constant vorticity. We find that for rotational waves the flow may contain zero, one, two or three stagnation points in a frame moving with the wave speed. When the vorticity is sufficiently strong the pressure within the flow displays anomalies, very different from what is observed in the irrotational case.

THURSDAY, MARCH 16, 2017

2:30 PM

Building 2, Room 147

*Reception following in Building 2, Room 290
(Math Dept. Common Room)*

<http://math.mit.edu/seminars/pms/>