A
FIZIKAI INTÉZET
és az
ATOMKI
közös
SZEMINÁRIUMA

TAKASHI SHIMADA
**(DEPARTMENT OF APPLIED PHYSICS, GRADUATE SCHOOL OF ENGINEERING,
THE UNIVERSITY OF TOKYO)**

How to Swim in Sand?

címmel előadást tart

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csütörtökön
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az
MTA Atommagkutató Intézet
nagy előadótermében
(Ciklotron épület 3. emelet)

Kivonat:

Exotic but efficient swimming modes under low Reynolds number condition have attracted much interest. Swimming in granular matter, which has static structure, is more interesting and complex problem.

I will present our result of an event driven simulation of swimming in granular particles. Our "pushmepullyou" swimmer consists of two disks connected by a spring. To make the swimming motion, we let the disks inflate and deflate, and the natural length of the connection stretches and shrinks in time.

We can find an ideal swimming frequency for which the resulting swimming velocity is optimal. More interestingly, there also exists an optimum non-zero frequency for the efficiency of the swimming.