

Department of Mathematics
City University of Hong Kong

Colloquium

Organised by Prof. P. G. Ciarlet and Prof. F. Cucker

Asymptotics of Optimal Configurations on the Sphere : from Smale's Problem 7 to Best Packing

by

Prof. Douglas P. Hardin
Vanderbilt University, Nashville, Tennessee

Abstract : We consider asymptotic properties (as N gets large) of configurations of N particles restricted to a compact set A in \mathbb{R}^p and minimizing the energy

$$\sum_{i \neq j} k_s(|x_i - x_j|)$$

where, for $s > 0$, $k_s(r)$ is the Riesz potential $1/r^s$ and, for $s = 0$, $k_s(r)$ is the logarithmic potential $\log(1/r)$.

The case that A is the 2-sphere and $s = 0$ is the setting for Smale's "Problem 7 for the Next Century". The case that A is the 2-sphere and $s = 1$ is the well-known Thomson's problem of N point charges on the sphere interacting through the Coulomb potential. This is joint work with J. Brauchart, S. Borodachov, and E. Saff.

Date : 17 March 2010 (Wednesday)
Time : 4:30pm - 5:30pm
Venue : Room Y4701
Yellow Zone, Level 4
Academic Building
City University of Hong Kong

(Tea, coffee and cookies will be provided in Y4701 before the colloquium from 4:00 to 4:30pm. Please come and join us.)

**** All interested are welcome ****

For enquiry : 2788-8646

