The Hong Kong Polytechnic University
Department of Applied Mathematics

Seminar
on

Variational problems with finite dimensional duals

by

Professor Alexander Ioffe
Department of Mathematics
The Technion, Haifa 32000
Israel

Abstract

We shall consider a class of simple variational problems whose most valuable property is that, being typically nonconvex and nonsmooth, they have convex value functions and allow for finite dimensional duals.

Such problems are known since the very beginning of the calculus of variations. They are not rare in mechanics and physics (e.g. the Newton aerodynamics problem) and prominent in the theory of welfare economics(the Aumann-Perles problem). The mentioned convexity properties allow to build a complete theory of such problems which includes existence, optimality conditions and relaxation theorems in addition to the duality relations.

Date : 19 May 2006 (Friday)

Time : 3:00 – 4:00 p.m.

Venue : Departmental Conference Room HJ610
The Hong Kong Polytechnic University

The Friday tea gathering will start right after the seminar

*** * * ALL ARE WELCOME * * ***