Optimal experimental designs for regression Mong-Na Lo Huang

Department of Applied Mathematics, National Sun Yat-sen University, Kaohsiung

March 8, 2010

Abstract:

A well-designed experiment may increase the precision of information about the model relating the factors and responses observed in the experiment, and help to identify significant factors influencing the responses efficiently. In this talk, theory of optimal experimental designs for regression models will be presented. Important principles and methodologies of finding optimal designs for regression models, such as optimality criteria and the celebrated general equivalence theorem by Kiefer and Wolfowitz (1959), will be introduced. Examples of optimal designs for linear and non-linear regression models with different types of objectives and design regions will be discussed.