

Abstract

This THESIS is divided into three parts. Part I deals with Social Choice and the negative results given by Gibbard-Satterthwaite theorem in the deterministic case and Gibbard's theorem in the randomized case and tries to fix it by weakening the notion of First order stochastic dominance (FOSD) strategy-proofness. Part II makes us familiar with Max-Plus Algebra starting with a motivating example of its application and then focusing on the theory of solving of linear equations. Part III tries to bring together Social Choice and Max-Plus Algebra by modelling a situation in Social Choice by linear equations in Max-Plus Algebra.