

סמינר מדעי היסוד
יום שני 22.4.2013 בשעה 14:00-15:00 בפיקוס 207

ד"ר אלה פרחי
אוניברסיטת תל-אביב

Approximation of Set-Valued Functions

תקציר

Set-valued functions (multifunctions) are functions with sets as values. They appear in many problems of optimization, control theory, approximation with uncertain data, geometric modelling etc. The numerical solution of such problems leads to approximation of multifunctions.

We present two main approaches to adapt classical approximation operations on multifunctions: indirectly, applying the operators on single-valued representations of the multifunctions, or directly, replacing arithmetic operations on numbers by operations on sets in those operators. In some special cases these two approaches produce the same result.

The first approach enables to reduce approximation properties of set-valued functions to the corresponding properties of their representing functions. Following the second approach, we apply metric linear combinations of sets to numerical approximation of set-valued functions. We discuss some examples.

The talk is based on joint works with Nira Dyn, Alona Mokhov and R. Baier.

מתאמים: פרופ' י. גולדמן, ד"ר ש. מיברג, פרופ' י. סטאנצ'סקו
ופרופ' ד. פישלוב

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