

Méthodes topologiques en analyse non linéaire:développements récents -  
Conférence à la mémoire du Professeur Andrzej Granas  
4 - 8 juillet 2022

Topological Methods in Nonlinear Analysis: Recent Advances - Conference  
in memory of Professor Andrzej Granas  
July 4 - 8, 2022

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## **Elementary and Useless Remarks on Mini-Max Type Theorems and Their Proofs**

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The first part of the talk, which originated in private discussions with Professor Granas, will briefly survey Von Neumann's Theorem and its relationship to some classical theorems in functional analysis, the Hahn-Banach's Theorem for example. Part two, taken from a joint work with Gabriele Greco, will be about generalizations of the Sion-Von Neumann's Theorem and more particularly about strong versions of Passy-Prisman's Theorem and König's Theorem. Part three should be about topological (that is without convexity) generalizations of KKM, fixed point theorems and some classical selection theorems. Taken together, the main ideas - there are two of them - of parts two and three are general enough to cover finitely many of the numerous generalizations that have appeared over the years, and maybe also some of the generalizations to come.