



复旦大学数学科学学院 数学综合报告会

报告题目: **Some non-standard optimal control problems arising from microbial fermentation**

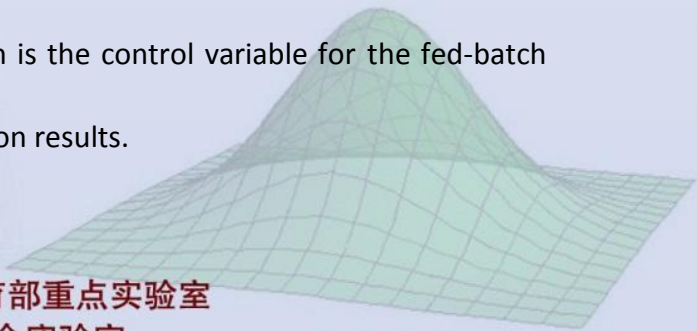
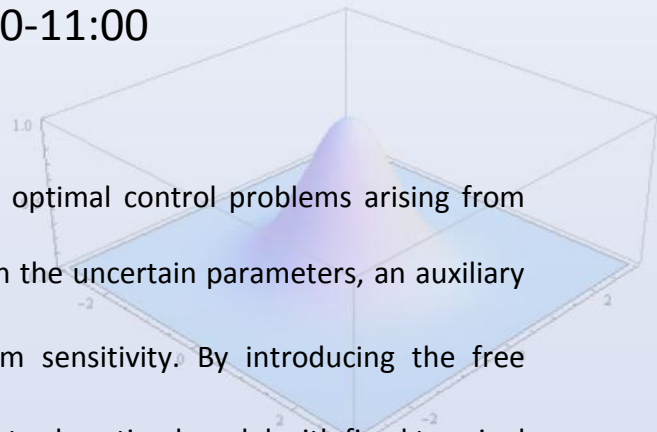
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报告时间: 2018-01-19 星期五 10:00-11:00

报告地点: 光华东主楼 2001

摘要: In this talk, we consider some non-standard optimal control problems arising from microbial fermentation. To seek the optimal control with the uncertain parameters, an auxiliary dynamic system is established to calculate the system sensitivity. By introducing the free terminal time transform technology, the equivalent robust sub-optimal model with fixed terminal time is obtained. For the robust sub-optimal control problem, we construct a modified particle swarm optimization to find the optimization variables. Then, we propose a new optimal control model for the production. The non-standard objective function incorporates both the final yield and the cost of changing the input feeding rate, which is the control variable for the fed-batch fermentation process. This talk concludes with simulation results.



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