

RESUMO N° 28

MULTILEVEL MONTE-CARLO METHODS APPLIED TO THE STOCHASTIC ANALYSIS OF AERODYNAMIC PROBLEMS

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This paper demonstrates the capabilities of the Multi-Level Monte Carlo Methods (MLMC) for the stochastic analysis of CFD aeronautical problems with

uncertainties. These capabilities are compared with the classical Monte Carlo Methods in terms of accuracy and computational cost through a set of benchmark test cases. The real

possibilities of solving CFD aeronautical analysis with uncertainties by using MLMC methods with a reasonable computational cost are demonstrated.