

# Seminário de sistemas dinâmicos e estocásticos

IMECC - UNICAMP

**Título: Robustness of exponential splitting for non-autonomous differential equations.**

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**Resumo:**

We investigate the existence of invariant manifolds for non-autonomous differential equations, focusing in particular on inertial and stable manifolds. We provide conditions involving a gap condition and the size of the perturbation to ensure that exponential splitting is robust under nonlinear perturbations, which gives the existence of the desired manifolds. We also establish a characterization of both types of manifolds in terms of the space of solutions exhibiting a common growth behavior, analogous to the classical characterizations involving exponential dichotomies.