

# SEMINAR

## Grupo de Análise Funcional e Aplicações Functional Analysis and Applications Group

### Exponential solutions in a mixed type differential equation

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#### Abstract

Differential equations with mixed (delayed and advanced) arguments constitute an important class of functional differential equations and have applications in various fields of science and engineering, in particular, in financial mathematics, control problems, population dynamics, and neural networks. The situation when the rate of the current change relies on both historical data and predicted values, is quite typical in mathematical economics. However, this class of equations has been much less studied than other classes of functional differential equations. So, here it will be considered a differential mixed type equation and introduce some sufficient conditions when a unique bounded solution defined on  $[t_0, \infty)$  exists.

*Room Sousa Pinto*  
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