

# SEMINAR

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

### On periodic solutions of certain second order differential equations in presence of nonlinear dissipation

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#### Abstract

Motivated by an article of A. C. Lazer (1938-2020) about the existence of  $2\pi$ -periodic solutions  $u(t)$  of

$$u'' + u + (F(u))' = e(t)$$

where  $F$  is  $C^1$  and bounded and  $e(t)$  is  $2\pi$ -periodic, we shall discuss: 1) a discrete version of this problem, 2) a similar problem where a bounded term  $g(u)$  is added. We shall also make some remarks and detours on the existence of bounded solutions. The talk is based mainly on articles by Luís Ferreira and L.S. (2020) and L.S. and João G. Silva (2021).

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**<https://videoconf-colibri.zoom.us/j/89383278454>**

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