



**Centro de Investigação em Matemática e Aplicações
Programa de Doutoramento em Matemática
Departamento de Matemática**

Seminário

**22 de junho de 2017 quinta-feira
CLAV – Anfiteatro 1 - 11:00 horas**

**Optimization with uncertainties
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Abstract

A neutrix is a convex additive subgroup of non-standard real line. The sum of a neutrix and a real number is called an external number. In this work we use neutrices and external numbers, which capture essential features of imprecision and maintaining rather strong and effective rules of calculation, to model imprecision in optimization problems with uncertainties in setting of non-standard analysis. Both linear and nonlinear optimization problems with uncertainties are studied. Necessary and sufficient conditions for the existence of an optimal/approximate optimal solution are presented.

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