

INTERNATIONAL CONFERENCE ON  
NONCOMMUTATIVE RINGS AND GEOMETRY

In honour of the 60<sup>th</sup> birthday of Freddy van Oystaeyen  
ALMERIA (SPAIN) 18-22 SEPTEMBER 2007

Constantin Năstăsescu

- joint work with Miodrag Cristian Iovanov -

*Splitting Problems for Profinite Algebras*

**Abstract.** We look at a class of problems from representation theory which are known as splitting problems: given an abelian category  $\mathcal{C}$  with a closed subcategory  $\mathcal{A}$ , then a natural question is that of when is the  $\mathcal{A}$ -torsion part of any object  $M$  of  $\mathcal{C}$  a direct summand of  $M$ . The categories of modules - representations of algebras - are those of most interest for this matter. We look at the representations of an important class of algebras, the profinite algebras. We study and give results on splitting problems with respect to various subcategories (and preradicals) of module categories over such algebras.