

Report

on the activities associated in 2013 to the project
PN-II-RU-TE-2011-3-0065 (contract 47/05.10.2011)

Functors on Module Categories

Budget: 203.099,60 lei

(A) Activities

We continued the activities described in the previous reports. The papers finalized in 2013 are the following:

(I) Functors on module categories

1. **S. Breaz**: A Baer-Kaplansky theorem for modules over principal ideal domains, *Journal of Commutative Algebra*,
2. **S. Breaz**, Σ -pure injectivity and Brown representability, *Proc. Amer. Math. Soc.*, accepted; arXiv:1304.0979
3. **S. Breaz**, When Ext commutes with direct unions, preprint.

(II) Clase de torsiune și de cotorsiune

1. **G. C. Modoi**: The dual of the homotopy category of projective modules satisfies Brown representability, *Bull. London Math. Soc.* (2014) 46 (4): 765-770 doi:10.1112/blms/bdu039
2. **C. Pelea**, I. Purdea, L. Stanca: Factor multialgebras, universal algebras and fuzzy sets, *Carpathian J. Math.*, accepted (it will be published in vol. 31, no. 1, 2015).
3. **G. C. Modoi**: The dual of Brown representability for some derived categories, arXiv:1305.6028, submitted

(C) Participări la conferințe, workshopuri, seminarii de cercetare

1. **S. Breaz**: *Algebraic Structures and Their Applications*, Spineto, June 16-21, 2014 (talk: Commuting properties for the defect functor associated to a homomorphism)
2. **S. Breaz**: *Algebraic Structures and Their Applications*, Spineto, June 16-21, 2014 (talk: Salce's lemma in trinagulated categories)
3. **F. Pop**: *Algebraic Structures and Their Applications*, Spineto, June 16-21, 2014, participant.
4. **S. Breaz**: *Algebraic Hyperstructures and its Applications*, Xanthi, September 2-7, 2014 (talk: Products of Hypergroupoids Associated to Binary Relations)
5. **C. Pelea**: *Algebraic Hyperstructures and its Applications*, Xanthi, September 2-7, 2014 (talk: Fundamental Relations in Multialgebras. A Survey)
6. **F. Pop**: *Algebraic Hyperstructures and its Applications*, Xanthi, September 2-7, 2014; participant.