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*Ziegler partial morphisms and approximations in exact categories*

In the eighties, Ziegler introduced, using the language of model theory, the notions of partial morphism, partial isomorphism and small extension in the category of modules over a not necessarily commutative ring  $R$ , in order to study (and extend) the pure-injective hull of a module. These notions were later characterized by Monari-Martinez in terms of systems of equations. In the talk we see that an exact category is the natural setting to study these notions, and that they are related with approximations in the category.

The talk is based on joint work with Pedro Guil, Berke Kalebogaz and Ashish Srivastava.