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Stratifying systems and proper systems.
(joint with: *Octavio Mendoza and Melina Verdecchia*).

Let Λ be a finite dimensional algebra over an algebraically closed field k. For any fixed ordering of the simple A-modules $S_1, \ldots, S_n$, the standard modules Δ_i are defined as the largest quotient of the projective cover of S_i having composition factors in $\{S_1, \ldots S_{i-1}\}$, for $i \geq n$. An algebra is standardly stratified if Λ has a filtration whose quotients are isomorphic to standard modules. The notion of standardly stratified system was defined by Erdmann and Sáenz, generalizing the standard modules, and the category of modules having a filtration with factors in the system has very interesting properties, as in the case of standardly stratified algebras.

Another family of modules playing an interesting role for standardly stratified algebras are the proper standard modules, defined as certain factors of the standard modules. Here we define the notion of proper system, generalizing the proper standard modules, study the category of modules filtered by such a system, and associate to it a standardly stratified algebra.