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Large cardinals and colimits

Abstract: In the category of models for some theory (like groups, or R -modules, or indeed most such simply-defined algebraic kinds of category), how different can colimits in the category be from the corresponding colimits in the category of all structures for the underlying language? An old result of Rosický using a strongly compact cardinal shows that in many cases the answer is “not at all”. I will show how one can use an “elementary embeddings” perspective on large cardinals to give an alternative proof of this result, and then use this perspective to improve the result by reducing the large cardinal assumption required. This is joint work with Joan Bagaria.