1057-18-377 **Jan Trlifaj*** (trlifaj@karlin.mff.cuni.cz), KA MFF UK, Sokolovska 83, Praha 8, Czech Rep.
Kaplansky classes.

Enochs introduced Kaplansky classes as sources of module approximations. Gillespie then used them to construct model structures for complexes over a Grothendieck category. A connection to model theory was discovered by Baldwin et al. In all these cases the focus was on Kaplansky classes closed under direct limits. Eklof then introduced deconstructible classes, and Estrada et al. used them to extend Gillespie's work to classes not necessarily closed under direct limits.

We will prove that each deconstructible class of modules closed under transfinite extensions is Kaplansky, and the converse holds for classes closed under direct limits, but not in general: If D is the class of $\aleph_1$–projective modules then D is always Kaplansky, but D is deconstructible iff R is perfect. A deconstructible class closed under transfinite extensions, direct summands, and containing R, is special precovering, but this fails for Kaplansky classes: It is consistent that D is not precovering for any countable ring; moreover, D is not precovering for any 1-Gorenstein ring.

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