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*Making factorizations composite*

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**Abstract:** The main aim of this paper is to obtain composite cone factorizations from non-composite ones by iteration. This is possible if and only if certain colimits of (possibly large) chains exist. In particular, we show that (strong-epi, mono) factorizations of cones exist if and only if joint coequalizers and colimits of chains of regular epimorphisms exist.

**Keywords:** (locally) orthogonal  $\mathcal{E}$ -factorization, (local) factorization class, colimit of a chain, cointersection, regular epimorphism, joint coequalizer, (familially) strong epimorphism, decomposition number

**AMS Subject Classification:** 18A32, 18A30, 18A20, 03E10