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Art M. Duval, Bennet Goeckner, Caroline J. Klivans and Jeremy L. Martin*
(jlmartin@ku.edu). *A non-partitionable Cohen-Macaulay simplicial complex.*

A long-standing conjecture of Stanley states that every Cohen-Macaulay simplicial complex is partitionable. We disprove the conjecture by constructing an explicit counterexample. Due to a result of Herzog, Jahan and Yassemi, our construction also disproves the conjecture that the Stanley depth of a monomial ideal is always at least its depth. (Received August 13, 2015)