1145-47-580   **Raphael Clouatre*** (`raphael.clouatre@umanitoba.ca`) and **Edward Timko** (`edward.timko@umanitoba.ca`). *Classifying cyclic row contractions.*

Pure commuting row contractions that are "almost co-isometric" can be classified up to unitary equivalence by compressions of the Drury–Arveson shift. Although very fine, this classification is restricted to row contractions with one-dimensional defect spaces. We explain how the defect condition can be relaxed to a more flexible cyclicity condition, upon settling for a coarser classification. Interestingly, our proof takes us out of the commutative world, as it hinges on tools that are genuinely non-commutative. New multivariate pathologies are encountered when aiming for higher multiplicities, and we exhibit some purely algebraic obstructions to the existence of cyclic decompositions for nilpotent tuples. This comes as a bit of a surprise, since such decompositions always exist in the classical univariate case. (Received September 10, 2018)