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Dylan Q. Retsek* (dretsek@calpoly.edu), Mathematics Department, Cal Poly, San Luis Obispo, CA 93407. *Norms of Composition Operators with Rational Symbol and Hypergeometric Series*. Preliminary report.

Over the last five years, much work has been done on norms of composition operators C_φ acting on the Hardy space with linear fractional symbol. For many such operators, one can realize their norms as roots of $F_{2,1}$ hypergeometric functions. This realization leads to simple necessary and sufficient conditions on φ for C_φ to exhibit extremal non-compactness, establishes equivalence of cohyponormality and cosubnormality of composition operators with linear fractional symbol, and yields a complete classification of those linear fractional φ that induce composition operators whose norms are determined by the action of the adjoint C_φ^* on the normalized reproducing kernels in H^2 .

In this talk, we will consider whether or not composition operators C_φ with *rational* symbol φ have norms similarly governed by $F_{m,n}$ hypergeometric series. At least one concrete example will be given where this is indeed the case. (Received March 09, 2008)