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Eduardo Cattani* (cattani@math.umass.edu), Department of Mathematics and Statistics, University of Massachusetts, Amherst, MA 01003, and **Alicia Dickenstein** and **Fernando Rodriguez Villegas**. *Rational hypergeometric functions in two variables*. Preliminary report.

We characterize those codimension-two configurations A whose associated A -hypergeometric system admits, for some integral homogeneity, a rational solution which is stable, i.e. not annihilated by any partial derivative. We prove that as conjectured in: E. Cattani, A. Dickenstein, and B. Sturmfels, *Rational Hypergeometric Functions*, *Compositio Math.*, 2001, such an A must be a Cayley essential configuration. The proof uses in an essential manner the classification of algebraic univariate hypergeometric functions due to F. Beukers and G. Heckman. *Monodromy for the hypergeometric function ${}_nF_{n-1}$* , *Invent. Math.*, 1989. (Received February 10, 2008)