1002-14-70 **Alicia Dickenstein*** (`alidick@dm.uba.ar`), Departamento de Matematica, FCEyN, UBA, Ciudad Universitaria - Pab. I, 1428 Buenos Aires, Argentina, and **Eduardo Cattani** (`cattani@math.umass.edu`), Department of Mathematics and Statistics, University of Massachusetts, Amherst, MA 01003. *Planar configurations and gkz-rationality.*

We introduce a notion of balanced configurations of vectors. This is motivated by the study of rational A-hypergeometric functions in the sense of Gelfand, Kapranov and Zelevinsky. We classify balanced configurations of seven plane vectors up to $GL(2, \mathbb{R})$-equivalence and deduce that the only gkz-rational toric four-folds in $\mathbb{P}^6$ are those varieties associated with an essential Cayley configuration. We show that in this case, all rational A-hypergeometric functions may be described in terms of toric residues. (Received August 24, 2004)