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Reinhard Laubenbacher. *A-Theory and real linear hyperplane arrangements*. Preliminary
report.

A new combinatorial homotopy theory, called *A*-theory is applied to the *k*-equal arrangements. We show that the *A*-groups of the order complex of the Boolean lattice are closely related to the classical homotopy groups of the *k*-equal arrangements. This result is generalized to real linear hyperplane arrangements and their associated zonotope. (Received August 20, 2002)