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**Tom Braden\*** (braden@math.umass.edu), **Anthony Licata**, **Nicholas Proudfoot** and **Ben Webster**. *Hypertoric varieties and Gale duality*. Preliminary report.

Associated to the data  $(\mathcal{H}, \xi)$  of a hyperplane arrangement defined over  $\mathbb{Q}$  and a linear function on the space of the arrangement, there is a hypertoric variety  $\mathfrak{M}$  equipped with a choice of a  $\mathbb{C}^*$  action. When  $\mathcal{H}$  is simple and  $\xi$  is generic,  $\mathfrak{M}$  is a complex symplectic orbifold and the action has isolated fixed points. We describe some interesting relations between the topology of hypertoric varieties defined by data  $(\mathcal{H}, \xi)$  and  $(\mathcal{H}^\vee, \xi^\vee)$  which are related by Gale duality. (Received January 17, 2008)