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Emanuele Delucchi* (delucchi@math.binghamton.edu), Department of mathematical sciences, Binghamton University, PO Box 6000, Binghamton, NY 13902-6000. *Discrete Morse functions for complexified arrangements.*

It has been known since some time (by the work of Randell and, independently, Papadima and Suciu) that the complement of every arrangement of complex hyperplanes is a minimal space. This means that it has the homotopy type of a CW-complex where the number of d -dimensional cells is exactly the d -th Betti number, for every d . Recently, some work was spent on the problem of actually constructing such minimal CW-complexes. I will sketch the principles of Salvetti and Settepanella's approach, that uses so-called 'polar orderings' in order to construct a discrete Morse function that collapses all 'unnecessary' cells. Then, motivated by a remark in Salvetti and Settepanella's work, I will introduce a different method that uses standard tools from the combinatorics of real arrangements and produces a complex that appears to be more closely related to well-studied combinatorial structures such as no-broken circuits and tope posets of oriented matroids. (Received January 28, 2008)