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Emanuele Delucchi*, Chemin du Musée 23, 1700 Fribourg, Switzerland. *On posets of components of Abelian arrangements.*

The set of intersection subspaces determined by a finite set of linear hyperplanes has a natural partial order with a rich and well-studied structure. In particular, these posets belong to the class of geometric lattices. Among their many properties there are some of topological flavour, mostly related to the notion of shellability – which, among other things, implies that the order complexes of such posets are Cohen-Macaulay.

The corresponding posets in the more general setting of Abelian arrangements (including the linear, toric and elliptic case) are less well understood. In this talk I will recall their definition and discuss what is known about their structure. I will then focus on topological properties. We prove EL-shellability for arrangements of Weyl type, but we can show that Cohen-Macaulayness holds in general. The main tool for this is a study of group actions on posets. This is joint work with Alessio d’Ali, Noriane Girard and Giovanni Paolini. (Received February 19, 2018)