Emanuele Delucchi (Fribourg, Switzerland)

Toric Arrangements – Towards Setting Up a Combinatorial Theory

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Recent work of De Concini, Procesi, and Vergne on vector partition functions gave a new impulse to the study of toric arrangements from algebraic, topological, and combinatorial points of view. In this context, many new discrete structures have appeared in the literature, each describing some aspect of the theory (i.e., either the arithmetic-algebraic one or the topological one) and trying to mirror the combinatorial framework which revolves around arrangements of hyperplanes.

I will give a quick overview of the state of the art and, taking inspiration from some recent results of topological flavor, I will try to suggest a possible approach towards unifying these different objects.