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Optimizing discrete Morse functions by graphs

Abstract: The goal of this talk is to put the optimization procedure of a discrete Morse function in terms of graph Theory. More precisely, the process of cancellation of pairs of critical simplices will be described by obtaining a special kind of matching in the corresponding Hasse diagram of the considered complex. It will be carried out by means of the combinatorial notion of transference which increases the number of edges of such kind of matchings.