

Matroid Parity Made Almost Simple

Date Tuesday, April 22

Time 4 pm

Location 317 Mudd

Abstract: Consider a matrix in which the columns of a matrix are partitioned into pairs, each of which is an "edge." The linear matroid parity problem is to find a maximum number of edges that are linearly independent. This problem includes several classic problems in combinatorial optimization as special cases, including the non-bipartite matching problem, and the matroid intersection algorithm. We present a new polynomial time algorithm for the matroid parity that is almost simple to understand, thus bringing the problem almost to the point where it can be taught in graduate classes in combinatorial optimization.