Boolean Minors

Klaus Truemper
Computer Science Program
University of Texas at Dallas

Matroid ideas have proved very useful for solving the problems SAT and MINSAT of propositional logic. That work relies on the matroid notions of independence, rank, basis, and span. It turns out that the matroid notion of minor is useful here as well. We demonstrate that fact by characterizing the nicely solvable class of hidden Horn clause systems in terms of the forbidden minimal Boolean minors and also in terms of forbidden minimal matrices that we call subregions.