

C. Feghali : Around the Matching-Cut problem

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The well-known NP-complete problem Matching-Cut is to decide if a graph has a matching that is also an edge cut of the graph. The variant Perfect Matching-Cut requires the matching cut to be a perfect matching. The variant Disconnected Perfect Matching requires the matching cut to be extendable to a perfect matching of the graph. We survey and compare computational complexity results, including a number of new results and, if time permits, a result in preparation resolving an open question (in joint work with Felicia Lucke, Daniel Paulusma and Bernard Ries) for these three problems when the input is restricted to some special graph class.