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Sergei V Chmutov* (chmutov@math.ohio-state.edu), The Ohio State University, Mansfield Campus, 1680 University Drive, Mansfield, OH 44906. *Duality of graphs on surfaces and Thistlethwaite's type theorems*. Preliminary report.

The natural duality of graphs embedded into a surface can be generalized to a duality with respect to a subset of edges. The dual graph might be embedded into a different surface. For graphs on surfaces there is a generalization of the classical Tutte polynomial called the Bollobas-Riordan polynomial. I will explain a relation between the signed Bollobas-Riordan polynomials of dual graphs. This relation unifies various recent Thistlethwaite's type results of expressing the Jones polynomial of (virtual) links as specializations of the Bollobas-Riordan polynomials. (Received February 05, 2008)