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Tutte Functions of Matroids

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A function defined on an arbitrary minor-closed class of matroids is a “Tutte function” if it satisfies the parametrized deletion-contraction law

$$F(M) = d_e F(M\backslash e) + c_e F(M/e)$$

whenever e is a point of M that is neither a loop nor a coloop. F need not have any other Tutte-style properties like multiplicativity. Here d_e and c_e are constants associated with e, independent of M but depending on the point e.

Functions of this kind appear in statistical physics and knot theory.

Joanna Ellis-Monaghan and I are studying the modules and algebras behind Tutte functions.
