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Criel Merino, Iain Moffatt* (iain.moffatt@rhul.ac.uk) and **Steven D. Noble**. *The critical group of an embedded graph.*

The critical group of a connected graph is an abelian group whose order gives its number of spanning trees. It is a well-established structure in combinatorics; closely related to the graph Laplacian and arising in several contexts such as chip firing and parking functions.

In this talk I'll describe an analogue of the critical group for graphs embedded in surfaces. By taking advantage of delta-matroid theory, we can associate an abelian group with each embedded graph. If an embedded graph is plane, then this group agrees with the critical group of its graph. I'll also discuss its relations with counting the quasi-trees in an embedded graph.

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