

Surface maps into orbifolds

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I'll describe a way of combinatorializing the space of maps of surfaces with boundary into a 2-dimensional orbifold with boundary. The main result of this technique is a polynomial time algorithm to compute stable commutator length in free products of cyclic groups, and experiments using this algorithm reveal interesting number-theoretic patterns. A secondary result is a stability theorem generalizing work of Calegari and Louwsma.