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Federico Ardila* (federico@math.sfsu.edu), Department of Mathematics, San Francisco State University, 1600 Holloway Ave., San Francisco, CA 94132. *Double Hurwitz numbers as splines*. Preliminary report.

The Double Hurwitz number $H_d^g(\mu, \nu)$ counts the genus g , degree d covers of \mathbb{P}^1 which have ramification profiles μ and ν at 0 and ∞ , and simple ramification elsewhere. By thinking of double Hurwitz numbers as splines, we prove several results about their rich combinatorial structure. Two important tools are Cavalieri-Johnson-Markwig's work on tropical Hurwitz numbers and De Concini-Procesi-Vergne's algebraic approach to the index of transversally elliptic operators.

The talk will be elementary, and will assume no previous knowledge of Hurwitz numbers. (Received September 22, 2009)