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James W Anderson. *The Lattice Structure of the Potential Signature Space.* Preliminary report.

The relationship between the number of distinct finite group actions on compact Riemann surfaces and the genus on which they act remains somewhat of a mystery – for example in genus 7, there are 148 and in genus 8, there are 108. Part of this mystery can be explained through the use of signatures that satisfy the Riemann Hurwitz formula though are not necessarily the signatures of actual group actions, so-called potential signatures. We shall show that the space of potential signatures has a lattice structure ordered by the divisibility of $g - 1$ where g represents the genus of a surface. (Received February 02, 2018)