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Sebastian Bozlee and **Aaron Wootton*** (wootton@up.edu), 5000 North Willamete Blvd.,
Portland, OR 97203. *Sufficiency of the Riemann-Hurwitz Formula for the Existence of a Group
Action.*

The topological data of a group action on a compact Riemann surface can be encoded using a tuple $(h; m_1, \dots, m_s)$ called its signature. There are two arithmetic conditions on a tuple necessary for it to be a signature: the Riemann–Hurwitz formula is satisfied and each m_i equals the order of a non-trivial group element. We consider the problem of when satisfaction of these two conditions is in fact sufficient for the existence of a group action with a given signature. (Received August 04, 2015)