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The number of ramified coverings of the sphere by the double torus, and a general form for higher genera*

I.P. Goulden & D.M. Jackson

Abstract An explicit expression is obtained for the generating series for the number of ramified coverings of the sphere by the double torus, with elementary branch points and prescribed ramification type over infinity. Thus we are able to prove a conjecture of Graber and Pandharipande, giving a linear recurrence equation for the number of these coverings with no ramification over infinity. The general form of this series is conjectured for the number of these coverings by a surface of arbitrary genus that is at least two.