

ABSTRACT:

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Totally geodesic subvarieties in the moduli space of Riemann surfaces

We will present an algebraic surface in the moduli space of triply punctured tori with the remarkable property that it is totally geodesic for Teichmüller metric. Our example reveals a surprising connection between Teichmüller theory and the geometry of cubic curves and is the first of its kind not arising from a covering construction. This is joint work with C. McMullen and A. Wright.