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BoGwang Jeon* (bogwang.jeon@gmail.com), ICERM, Brown University, Providence, RI 02903.

HYPERBOLIC 3-MANIFOLDS OF BOUNDED VOLUME AND TRACE FIELD

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For a single cusped hyperbolic 3-manifold, Hodgson proved that there are only finitely many Dehn fillings of it whose trace fields have bounded degree. In this paper, we conjecture the same for manifolds with more cusps, and give the first positive results in this direction. For example, in the 2-cusped case, if a manifold has linearly independent cusp shapes, we show that the manifold has the desired property. To prove the results, we use the Habegger's proof of the Bounded Height Conjecture in arithmetic geometry. (Received June 13, 2013)