

**VENTOTENE INTERNATIONAL WORKSHOPS III  
MODULI SPACES  
VENTOTENE, 11-16 SEPTEMBER 2017**

VOLUME OF ANTI-DE SITTER 3-MANIFOLDS

Andrea Seppi  
Università di Pavia

A celebrated theorem of J. Brock showed that the volume of the convex core of a quasi-Fuchsian manifold is coarsely equivalent to the Weil–Petersson distance between its two Bers parameters in the Teichmüller space  $T(S)$  of the closed surface  $S$ . In this talk, we will study the volume of maximal globally hyperbolic Anti-de Sitter 3-manifolds, which are the Lorentzian equivalent of quasi-Fuchsian manifolds and are again parameterized by  $T(S) \times T(S)$  by a result of G. Mess. We will show that the volume of the convex core is coarsely equivalent to the optimal  $L^1$ -energy between hyperbolic surfaces, and we will discuss the relation with the Thurston distance and the Weil–Petersson distance. This is a joint work with F. Bonsante and A. Tamburelli.