

1094-57-62

**Oliver Dasbach** and **Anastasiia Tsvietkova\*** (tsvietkova@lsu.edu). *A refined upper bound for the hyperbolic volume of alternating links and the colored Jones polynomial.* Preliminary report.

Since quantum invariants were introduced into knot theory, there has been a strong interest in relating them to the intrinsic geometry of a link complement. This is reflected, for example, in the Volume Conjecture, which claims that the hyperbolic volume of a link complement in  $S^3$  is determined by the colored Jones polynomial.

In the work of M. Lackenby, and of I. Agol and D. Thurston, an upper bound for volume of a hyperbolic link complement in terms of the number of twists of a link diagram is obtained. We will discuss how to refine this bound for alternating links, and how to express the refined bound in terms of the three first and three last coefficients of the colored Jones polynomial. (Received August 07, 2013)