

1056-57-427

**Oliver Dasbach** and **Adam Lowrance\*** ([alowrance@math.uiowa.edu](mailto:alowrance@math.uiowa.edu)), Department of Mathematics, University of Iowa, 14 MacLean Hall, Iowa City, IA 52242-1419. *Turaev genus, knot signature, and the knot homology concordance invariants.*

Each knot diagram has an associated Turaev surface, a certain Heegaard surface in the three-sphere on which the knot has an alternating projection. The Turaev genus of a knot is defined to be the minimum genus of any Turaev surface for the knot, where the minimum is taken over all diagrams. From any knot diagram, one can find upper and lower bounds on knot signature, the Ozsváth-Szabó  $\tau$  invariant, and Rasmussen's  $s$  invariant. We show how these bounds relate to Turaev genus, and consequently develop a new lower bound for Turaev genus. (Received September 06, 2009)