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Nathan M. Dunfield, Stavros Garoufalidis and Alexander Shumakovitch*

(Shurik@gwu.edu), The George Washington University, Department of Mathematics, Old Main Hall, 1922 F St. NW, Room 102, Washington, DC 20052, and **Morwen Thislethwaite**. *Behavior of knot invariants under genus 2 mutation*. Preliminary report.

We study behavior of various knot invariants under genus 2 mutation. We generalize results of Morton-Traczyk and Ruberman to show that the colored Jones polynomials (for all colors) and the hyperbolic volume are invariant under such mutation and, hence, under the Conway (that is, genus 0) mutation.

On the other hand, we show that the HOMFLY-PT polynomial and Khovanov homology may change under genus 2 mutation, although it is known that they are invariant under the Conway one. The question about the Kauffman polynomial is still open.

Finally, we present examples of knots with the same same colored Jones polynomials, HOMFLY-PT polynomial, Kauffman polynomial, signature, and hyperbolic volume, but different Khovanov homology. (Received February 21, 2006)