A CONJECTURE ON AMPHICHEIRAL KNOTS

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ABSTRACT. Detecting chirality is one of main question in knot theory. For this end, various methods have been developed in the past. The polynomial invariants like Jones, HOMFLYPT, Kauffman are the most prominent methods among them. In 2006, James Conant found that for every natural number $n$, a certain polynomial in the coefficient of the Conway polynomial is a primitive integer-valued degree $n$ Vassiliev invariant, which named as $pc_n$. It is conjectured that $pc_n \mod 2$ vanishes on all amphicheiral knots. Another way to formulate this conjecture is, if $K$ is an amphicheiral knot then there is a polynomial $F$ such that $C(z)C(iz)C(z^2) = F^2$ Where $F \in Z_2(z^2)$, $C(z)$ is the Conway polynomial of knot $K$ and $i = \sqrt{-1}$. By work of Kawauchi and Hartley it can be easily shown that this is true for all negative and strong positive amphicheiral knots. However the conjecture still remain unsolved for positive amphicheiral knots (not strong). In this talk we summarize our work on this conjecture.

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