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Title: *On the relation of the volume of the tetrahedron and the quantum 6j-symbol*

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Abstract: A formula for the volume of hyperbolic and elliptic tetrahedron is obtained from the quantum 6j-symbol. Kashaev conjectured that certain asymptotics of some quantum invariants of a hyperbolic knot related to the hyperbolic volume of the knot complement. Such quantum invariants turned out to be specializations of colored Jones polynomials, and then his conjecture suggests that there should be some relation between su_2 invariants and volumes. Applying this idea to the quantum 6j-symbol, a closed formula for the volume of tetrahedra is obtained, which is a sum of 16 terms of dilogarithm functions.

A closed formula for such volumes is already given by Cho-Kim in 1999. However, our formula is symmetric with respect to the edges of the tetrahedron in its presentation, and I would like to introduce here.