1108-57-559   **Alexander Borland** and **Thomas Kerler*** (`kerler.2@osu.edu`), The Ohio State University, Department of Mathematics, Columbus, OH 43202. *Hopf Algebra Valued Knotoid Invariants.* Preliminary report.

In 2011 Turaev introduced the monoid of Knotoids $\mathcal{K}$. Given a ribbon Hopf algebra $\mathcal{H}$ together with a ribbon automorphism ϕ on $\mathcal{H}$ we construct a morphism of monoids $\mathcal{K} \to \mathcal{H}$. In the case of a trivial automorphisms the construction specializes to known knot invariants that associate to a knot an element in the center of $\mathcal{H}$. Moreover, when specialized to the fundamental representation of the quantum group $U_q(\mathfrak{sl}_2)$ our invariant is related to Turaev's knotoid bracket polynomial that contains an additional parameter which, in our picture, corresponds to a one-paramenter family of ribbon automorphisms. The method readily implies colored versions of Tuarev's invariant as well as multi-parameter generalizations to higher rank quantum groups. (Received January 20, 2015)