1056-53-566   **Charmaine Sia*** (`sia@mit.edu`). *Duality Properties of Indicatrices of Knots.*

The bridge index and superbridge index of a knot are important invariants in knot theory. We define the bridge map of a knot conformation, which is closely related to these two invariants, and interpret it in terms of the tangent indicatrix of the knot conformation. Using the concepts of dual and derivative curves of spherical curves as introduced by Arnold, we show that the graph of the bridge map is the union of the binormal indicatrix and its antipodal curve. Similarly, we define the inflection map of a knot conformation, interpret it in terms of the binormal indicatrix and express its graph in terms of the tangent indicatrix. This duality relationship is also studied for another dual pair of curves, the normal and Darboux indicatrices of a knot conformation. (Received September 12, 2009)