Kerry M. Luse* (lusek@trinitydc.edu) and Mark E. Kidwell (mek@usna.edu). Predicting the number and type of twist sites in a rational knot or link. Preliminary report.

A rational knot or link can be put into a standard alternating format which has horizontal and vertical twist sites (double helices). The number and type of these twist sites are determined by terms of next-to-highest $z$-degree in Kauffman’s regular isotopy invariant $\Lambda(a, z)$. In particular, for a knot or link with $c$ crossings, the coefficient of the $z^{c-2}$ term is equal to the number of twist sites in its standard diagram. Furthermore, the coefficients of the $a^{-2}z^{c-2}$ and $a^{2}z^{c-2}$ count the number of left-turning and right-turning twist sites, respectively. (Received September 15, 2014)