

1116-VU-2206 **Colin Murphy*** (murphyc6@seattleu.edu), **McKenna Renn** (mrswiss@comcast.net),
Ra’Jene Martin (martin_r7@denison.edu) and **Jennifer Townsend**. *The Applications of
Region Almost Alternating Knots.*

Colin Adams introduced the notion of almost alternating knots, which are non-alternating knots that have a projection in which one crossing change is required to create an alternating diagram. We extend this notion in conjunction with Ayaka Shimizu’s work on region crossing changes to develop the idea of a region almost alternating knot. This is defined as a knot where there exists a diagram such that a single region crossing change will produce an alternating diagram and no alternating projection exists. We discuss families of knots that are region almost alternating and their characteristics, such as their relation to almost alternating knots, their behavior in a connected sum, bounds on region dealternating numbers, and warping span. Our results resolve an open question about the maximum warping span of knots. (Received September 22, 2015)