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Kenan Ince* (kenan@rice.edu), Kenan Ince, MS-136, Box 1892, Houston, TX 77251-1892. *The untwisting number of a knot.*

The unknotting number of a knot is the minimum number of crossings one must change to turn that knot into the unknot. The algebraic unknotting number is the minimum number of crossing changes needed to transform a knot into an Alexander polynomial-one knot. We work with a generalization of unknotting number due to Mathieu-Domergue, which we call the untwisting number. The untwisting number is the minimum number (over all diagrams of a knot) of full twists on even numbers of strands of a knot, with half of the strands oriented in each direction, necessary to transform that knot into the unknot. We show that the algebraic untwisting number is equal to the algebraic unknotting number. However, we also exhibit several families of knots for which the difference between the unknotting and untwisting numbers is arbitrarily large, even when we only allow twists on a fixed number of strands or fewer. (Received September 14, 2015)