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Catherine Eva Pfaff* (cpfaff@math.ucsb.edu), UCSB Math Dept., South Hall, Room 6607,
Santa Barbara, CA 93106. *Geodesics of Outer Space in an Algorithmic Setting.*

The outer automorphism group of the free group is understood via its action on Culler-Vogtmann Outer Space. Because of its rich, intriguing complexity, many aspects of Outer Space, and hence many aspects of the outer automorphism group of the free group, are difficult to tackle in an algorithmic manner. As one approach to taming this situation, we have isolated particular outer automorphisms and associated geodesics that can in fact be understood algorithmically. We explain theorems sprouting from our investigation into these outer automorphisms and geodesics. This is joint work with Yael Algom-Kfir, Ilya Kapovich, and Lee Mosher. (Received March 18, 2017)