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Aaron Calderon and **Nick Salter***, Department of Mathematics, 2990 Broadway, New York, NY 10027. *Higher spin mapping class groups and their applications.*

A higher spin structure on a surface is a topological gadget that can be thought of as an assignment of “winding number” to each isotopy class of simple closed curve. Such objects appear in a variety of problems connecting the mapping class group to problems in algebraic geometry, complex analysis, and geometric group theory. We will introduce “higher spin mapping class groups” and explain how recent advances in their theory answer a diverse array of questions in the above-mentioned subjects. Portions of this work are joint with Aaron Calderon. (Received July 25, 2019)