

Abstract Submitted
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Interferometry Measurements of Anyonic Charge¹ PARSA BOND-
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ILL SHTENGEL, UC Riverside — We examine interferometric measurements of
the topological charge of (possibly non-Abelian) anyons. Such measurements are
essential to the implementations of topological quantum computation which have
been proposed in the context of quantum Hall states. Anyons are placed in a Mach-
Zehnder interferometer and their topological charge is determined from the effect
it has on the interference of probe particles sent through the interferometer. We
find that superpositions of distinct anyonic charges in the target collapse when the
probe particles have nontrivial monodromy with the differences between the anyonic
charges.

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