

1165-57-86

Shaoyun Bai and **Boyu Zhang*** (bz@math.princeton.edu), 120 Prospect Ave, Apt L2,
Princeton, NJ 08540. *Gauge theory and generalized Casson invariants.*

In 1985, Casson introduced an invariant for integer homology 3-spheres by counting $SU(2)$ representations of the fundamental group in an appropriate sense. Since then, the extensions of Casson's invariant to more general manifolds and groups have been studied by many groups of people, including Boyer-Nicas, Walker, Capell-Lee-Miller, Curtis, Boden-Herald, and Boden-Herald-Kirk-Klassen. In this talk, I will report some recent progress in the study of generalized Casson invariants using gauge theory. This talk is based on joint works with Shaoyun Bai. (Received January 12, 2021)