

Abstract Submitted  
for the MAR14 Meeting of  
The American Physical Society

**The uses of Instantons for classifying Topological Phases<sup>1</sup>** JUVEN WANG, Massachusetts Institute of Technology / Perimeter Institute for Theoretical Physics, XIAO-GANG WEN, Perimeter Institute for Theoretical Physics / Massachusetts Institute of Technology — A strategy of using instantons, zero modes and the index theorem for classifying topological phases is developed in this work. We argue that this approach is very powerful and can be applied to topological phases with or without a global symmetry in any (higher) dimensional spacetime. (this URL for a work summary: [www.mit.edu/~juven/](http://www.mit.edu/~juven/))

<sup>1</sup>NSF Grant No. DMR-1005541, NSFC 11074140, and NSFC 11274192, Government of Canada through Industry Canada and by the Province of Ontario through the Ministry of Economic Development and Innovation

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Date submitted: 15 Nov 2013

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