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Sherry Gong* (sgongli@mit.edu). *Marked link invariants: Khovanov, instanton, and binary dihedral invariants for marked links.*

We introduce a version of Khovanov homology for alternating links with marking data, ω , inspired by instanton theory. We show that the analogue of the spectral sequence from Khovanov homology to singular instanton homology (Kronheimer and Mrowka, *Khovanov homology is an unknot-detector*) collapses on the E_2 page for alternating links. We moreover show that the Khovanov homology we introduce for alternating links does not depend on ω ; thus, the instanton homology also does not depend on ω for alternating links.

Finally, we study a version of binary dihedral representations for links with markings, and show that for links of non-zero determinant, this also does not depend on ω . (Received September 07, 2017)