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Zhaohu Nie* (zhaohu.nie@usu.edu), Department of Mathematics and Statistics, Utah State University, Logan, UT 84322-3900. *Classification of solutions to Toda systems of types C and B with singular sources.*

Toda systems are generalizations of the Liouville equation to other simple Lie algebras, and they arise in many physical and geometric problems. For Toda systems of type A , in a fundamental work Lin, Wei and Ye classified their solutions with finite energy and singular sources at the origin among other results. In this talk, we aim to generalize the classification of solutions to Toda systems of types C and B . Like in the A cases, the solutions are parametrized by the corresponding groups. The method is by studying the C and B types as reductions of type A with symmetries. The theories of Toda systems as integrable systems, in particular the W -symmetries and the iterated integral solutions, play essential roles in this work, together with certain characterizing properties of minors of symplectic and orthogonal matrices. (Received February 15, 2016)