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Finding the Onsager algebra in all the right places

In a seminal paper in 1944, Onsager introduced an infinite-dimensional Lie algebra, now referred to as the Onsager algebra, and used it to compute the free energy of the two-dimensional Ising model in statistical mechanics. In this survey talk we will discuss how the Onsager algebra arises in the study of loop algebras and their invariants under certain automorphisms.