The alternating central extension of the q-Onsager algebra

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Abstract

The q-Onsager algebra O_q is a quantized enveloping algebra for the Onsager Lie algebra O. Recently Baseilhac, Koizumi, and Shigechi introduced an algebra $\mathcal{O}_q$ called the alternating central extension of O_q. In this talk, our goal is to describe how O_q is related to $\mathcal{O}_q$. To motivate this description, we first consider a toy model, involving the positive part U_q^+ of $U_q(\widehat{\mathfrak{sl}}_2)$ and its alternating central extension $\mathcal{U}_q^+$. We will see that O_q is related to $\mathcal{O}_q$ in essentially the same way as U_q^+ is related to $\mathcal{U}_q^+$. We finish with an open problem.