1150-33-564 **Luc Frappat** and **Julien Gaboriaud***, 2900, boul. Édouard-Montpetit, Montréal, Québec H3T 1J4, Canada, and **Eric Ragoucy** and **Luc Vinet**. *Two dual descriptions of the Askey–Wilson algebra $AW(n)$.*

The Askey–Wilson algebra $AW(3)$ first appeared as the algebra encoding the bispectrality of the eponym polynomials. It has also been described as the commutant of the $U_q(\mathfrak{su}(1,1))$ algebra in its threefold tensor product. This new description has been generalized to the n-fold tensor product to define a higher rank analog of the algebra, $AW(n)$.

I will present a description of the Askey–Wilson algebra $AW(3)$ that is dual (in the sense of Howe) to the $U_q(\mathfrak{su}(1,1))$ one. $AW(3)$ will be obtained as a commutant of the $\mathfrak{o}_{q^{1/2}}(2) \oplus \mathfrak{o}_{q^{1/2}}(2) \oplus \mathfrak{o}_{q^{1/2}}(2)$ algebra in q-oscillator representations of $\mathfrak{o}_{q^{1/2}}(6)$. It will be shown that this construction is related to the dual pair $\big(U_q(\mathfrak{su}(1,1)), \mathfrak{o}_{q^{1/2}}(6)\big)$.

Owing to the fact that $\big(U_q(\mathfrak{su}(1,1)), \mathfrak{o}_{q^{1/2}}(2n)\big)$ is the more general dual pair, the construction will be extended to obtain a description of the arbitrary rank Askey–Wilson algebra $AW(n)$ as a commutant of $\mathfrak{o}_{q^{1/2}}(2)^{\oplus n}$ in q-oscillator representations of $\mathfrak{o}_{q^{1/2}}(2n)$.

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