

ERRATUM

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J. Phys. A: Math. Theor. [56 244001](#))

To cite this article: G W Forbes and Miguel A Alonso 2023 *J. Phys. A: Math. Theor.* **56** 489601

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Erratum: Asymptotic expansions for field moments of bound states (2023 *J. Phys. A: Math. Theor.* **56** 244001)

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Received 31 October 2023

Accepted for publication 31 October 2023

Published 10 November 2023



Due to processing steps in production, several errors were introduced, including missing angular brackets. These are all on page 13 of the published paper: three around K_0 , K_1 and K_2 on the fourth line of section 3.2, so that the sentence reads ‘For this case, it follows from symmetry that $M_1 = 0$ and it turns out that $\langle X \rangle$, $\langle K_0 \rangle$, and $\langle K_1 \rangle$ are all zero, and it is easy to evaluate $\langle K_2 \rangle$ numerically’, and one around K_2 on the sixth line of the paragraph that follows it, where the sentence should read ‘The evaluation of the asymptotic estimate, on the other hand, is relatively trivial because $\langle K_2 \rangle$ is given by a single integral whose integrand is relatively slowly varying’.

Also, a paragraph break was removed on page 5, on the fourth line after equation (18): The words ‘It is helpful’ should be the start of a new paragraph.

Finally, after publication the authors realised that, despite what they claimed in one of the examples in the manuscript and what they had seen in a number of places in the literature, the bound states of the Pöschl–Teller potential of equation (36) can be found in closed form for all values of k . Those solutions take the form

$$U_n(x) = \operatorname{sech}^{\kappa-n} x P_n^{(\kappa-n, \kappa-n)}(\tanh x),$$

for $n = 0, 1, 2, \dots, \lfloor \kappa \rfloor$ where $P_n^{(\alpha, \beta)}(u)$ is a Jacobi polynomial. Fortunately, this does not change any of the primary contributions made in the article.

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