Erratum to: Vector boson oscillator in the spiral dislocation spacetime

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The authors regret that spinorial affine connections given by Eq. (8) in the original article were wrongly calculated. According to the line element represented in Eq. (2) in the original article, the correct form of spinorial affine connections are obtained as

$$\Gamma_t = 0, \quad \Gamma_r = \frac{i\beta}{2} \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}, \quad \Gamma_\theta = \frac{i}{2} \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}, \quad (1)$$

With regard to these corrections, the set of equations presented in Eq. (11) brought in the original article must be rewritten as

$$2\mathcal{M}\varphi_0(r) + \left(\frac{d}{dr} - i\beta j + \mathcal{K}a_c r + \frac{(\mathcal{K}b_c + 1)}{r} \right) \varphi_+(r) - \frac{j}{r} \varphi_-(r) = 0, \quad (2a)$$

$$\varepsilon\varphi_+(r) - \mathcal{M}\varphi_-(r) - \frac{2j}{r} \varphi_0(r) = 0, \quad (2b)$$

$$\varepsilon\varphi_-(r) - \mathcal{M}\varphi_+(r) - 2 \left(\frac{d}{dr} - i\beta j - \mathcal{K}a_c r - \frac{\mathcal{K}b_c}{r} \right) \varphi_0(r) = 0. \quad (2c)$$

In the following, combining Eqs. (2a), (2b) and (2c) through the mentioned method in the original article and applying the changing variable expressed in the original article, the prime wave equation in this issue would be Eq. (16) presented in the original article in such a way that the relevant wave function becomes

$$U(\xi) = N\xi^{\sqrt{\Delta_1}} e^{-\frac{1}{2}\xi^2} \mathcal{L}_n^{\sqrt{\Delta_1}}(\xi^2) \quad (3)$$

and corresponding energy spectrum equation can be expressed as follows

$$\frac{\mathcal{E}_{nj}^2}{a_c \mathcal{K}} + \frac{2j\mathcal{E}_{nj}}{\mathcal{M}} - 2\sqrt{j^2 + b_c^2 \mathcal{K}^2 - \frac{2b_c j \mathcal{K} \mathcal{E}_{nj}}{M}} - 4(n+1) - \frac{\mathcal{M}^2}{a_c \mathcal{K}} - 2b_c \mathcal{K} = 0. \quad (4)$$

The original article can be found online at <https://doi.org/10.1140/epja/s10050-021-00514-8>.

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