Erratum to: On computing ellipsoidal harmonics using Jekeli's renormalization

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An error in the equations had occurred in the original version of the online published article. Corrections are indicated by exclamation marks.

* $\bar{S}_{n,m}^0$ **recurrence**-referring to Eq. (20)

$$\begin{aligned} * \bar{S}_{n,m}^0 &= * \bar{S}_{n,m}^0 \left(\frac{u}{E} \right) = \beta_{n,m} \sum_{k=0}^{\infty} \alpha_{n,m,k} \\ \alpha_{n,m,k} &= \frac{-(n-m+2k-1)(n-m+2k)}{2k(2n+2k+1)} \left(\frac{E}{u} \right)^2 \alpha_{n,m,k-1} \\ \alpha_{n,m,0} &= 1 \\ \beta_{n,m} &= \frac{u}{\sqrt{u^2 + E^2}} \beta_{n,m-1} \end{aligned}$$

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$$\begin{aligned} \beta_{n,0} &= \frac{R}{u} \beta_{n-1,0} \\ \beta_{0,0} &= \frac{R}{u} \end{aligned}$$

* $\bar{S}_{n,m}^1$ **recurrence**-referring to Eq. (21)

$$\begin{aligned} * \bar{S}_{n,m}^1 &= \frac{\partial \bar{S}_{n,m}^0}{\partial u} = \frac{\partial \beta_{n,m}}{\partial u} \sum_{k=0}^{\infty} \alpha_{n,m,k} + \beta_{n,m} \sum_{k=0}^{\infty} \frac{\partial \alpha_{n,m,k}}{\partial u} \\ \frac{\partial}{\partial u} \alpha_{n,m,k} &= \frac{-(n-m+2k-1)(n-m+2k)}{2k(2n+2k+1)} \\ &\quad \times \left(-2 \frac{E^2}{u^3} \alpha_{n,m,k-1} + \frac{E^2}{u^2} \frac{\partial \alpha_{n,m,k-1}}{\partial u} \right) \\ \frac{\partial \alpha_{n,m,0}}{\partial u} &= 0 \\ \frac{\partial \beta_{n,m}}{\partial u} &= \frac{E^2}{(u^2 + E^2)^{\frac{3}{2}}} \beta_{n,m-1} + \frac{u}{\sqrt{u^2 + E^2}} \frac{\partial \beta_{n,m-1}}{\partial u} \\ \frac{\partial \beta_{n,0}}{\partial u} &= -\frac{R}{u^2} \beta_{n-1,0} + \frac{R}{u} \frac{\partial \beta_{n-1,0}}{\partial u} \\ \frac{\partial \beta_{0,0}}{\partial u} &= -\frac{R}{u^2} \end{aligned}$$

* $\bar{S}_{n,m}^2$ **recurrence**: referring to Eq. (22)

$$\begin{aligned} * \bar{S}_{n,m}^2 &= \frac{\partial^2 \bar{S}_{n,m}^0}{\partial u^2} = \frac{\partial^2 \beta_{n,m}}{\partial u^2} \sum_{k=0}^{\infty} \alpha_{n,m,k} \\ &\quad + 2 \frac{\partial \beta_{n,m}}{\partial u} \sum_{k=0}^{\infty} \frac{\partial \alpha_{n,m,k}}{\partial u} + \beta_{n,m} \sum_{k=0}^{\infty} \frac{\partial^2 \alpha_{n,m,k}}{\partial u^2} \end{aligned}$$

$$\begin{aligned}
\frac{\partial^2 \alpha_{n,m,k}}{\partial u^2} &= \frac{-(n-m+2k-1)(n-m+2k)}{2k(2n+2k+1)} \\
&\quad \times \left(6 \frac{E^2}{u^4} \alpha_{n,m,k-1} - 4 \frac{E^2}{u^3} \frac{\partial \alpha_{n,m,k-1}}{\partial u} \right. \\
&\quad \left. + \frac{E^2}{u^2} \frac{\partial^2 \alpha_{n,m,k-1}}{\partial u^2} \right) \\
\frac{\partial^2 \alpha_{n,m,0}}{\partial u^2} &= 0 \\
\frac{\partial^2 \beta_{n,m}}{\partial u^2} &= - \underbrace{\frac{3uE^2}{(u^2+E^2)^{\frac{5}{2}}}}_{!} \beta_{n,m-1} + 2 \underbrace{\frac{E^2}{(u^2+E^2)^{\frac{3}{2}}}}_{!} \frac{\partial \beta_{n,m-1}}{\partial u} \\
&\quad + \underbrace{\frac{u}{\sqrt{u^2+E^2}}}_{!} \frac{\partial^2 \beta_{n,m-1}}{\partial u^2} \\
\frac{\partial^2 \beta_{n,0}}{\partial u^2} &= 2 \frac{R}{u^3} \beta_{n-1,0} - 2 \frac{R}{u^2} \frac{\partial \beta_{n-1,0}}{\partial u} + \frac{R}{u} \frac{\partial^2 \beta_{n-1,0}}{\partial u^2} \\
\frac{\partial^2 \beta_{0,0}}{\partial u^2} &= 2 \frac{R}{u^3}
\end{aligned}$$