

Errata and Comments to *Higher Transcendental Functions* and *Tables of Integral Transforms*

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These are comments and possibly not yet published errata to the volumes

A. Erdélyi, *Higher transcendental functions*, Vols. 1,2,3 McGraw-Hill, 1953, 1953, 1955, and *Tables of integral transforms*, Vols. 1,2, McGraw-Hill, 1954, 1954.

See also the lists of errata which are included in the volumes, and the errata collected by H. van Haeringen and L. P. Kok in Math. Comp. 41 (1983), 778–780, see <http://www.jstor.org/stable/2007718>.

Higher transcendental functions, Vol. 1

3.4(8): On the right, after the equality sign, replace $i\pi$ by $-i\pi$ (observed by E. Diekema; see Ch. IV, (99) in L. Robin, *Fonctions sphériques de Legendre et fonctions sphéroidales*, Tome II, Gauthier-Villars, 1958).

3.15(4): This formula is valid for $z \in \mathbb{C} \setminus (-\infty, 1]$. For $z \in (-1, 1)$ the formula remains valid if we replace $(z^2 - 1)^{\frac{1}{4} - \frac{1}{2}\nu}$ by $(1 - z^2)^{\frac{1}{4} - \frac{1}{2}\nu}$ and $P_{n+\nu-\frac{1}{2}}^{\frac{1}{2}-\nu}$ by $P_{n+\nu-\frac{1}{2}}^{\frac{1}{2}-\nu}$:

$$C_n^\nu(x) = 2^{\nu-\frac{1}{2}} \frac{\Gamma(n+2\nu)\Gamma(\nu+\frac{1}{2})}{\Gamma(2\nu)\Gamma(n+1)} (1-x^2)^{\frac{1}{4}-\frac{1}{2}\nu} P_{n+\nu-\frac{1}{2}}^{\frac{1}{2}-\nu}(x) \quad (x \in (-1, 1)).$$

Higher transcendental functions, Vol. 2

10.9(8): In the formula for K_n insert a factor $n!$ on the right.

10.10(5): In the formula for C_n delete the minus sign on the right.

10.12(2): The formula for r_n should read: $r_n = -n(n + \alpha)$.

Tables of integral transforms, Vol. 1

1.10(5): On the left replace the expression for $f(x)$ ($0 < x < 1$) by $(1-x)^\nu(1+x)^\mu P_{2n}^{(\nu,\mu)}(x) + (1+x)^\nu(1-x)^\mu P_{2n}^{(\mu,\nu)}(x)$.

1.10(6): On the left replace the expression for $f(x)$ ($0 < x < 1$) by $(1-x)^\nu(1+x)^\mu P_{2n+1}^{(\nu,\mu)}(x) - (1+x)^\nu(1-x)^\mu P_{2n+1}^{(\mu,\nu)}(x)$.

On the right replace $(-1)^{n+1}$ by $(-1)^n$.

2.10(6): On the left replace the expression for $f(x)$ ($0 < x < 1$) by $(1-x)^\nu(1+x)^\mu P_{2n}^{(\nu,\mu)}(x) - (1+x)^\nu(1-x)^\mu P_{2n}^{(\mu,\nu)}(x)$.

2.10(7): On the left replace the expression for $f(x)$ ($0 < x < 1$) by

$$(1-x)^\nu(1+x)^\mu P_{2n+1}^{(\nu,\mu)}(x) + (1+x)^\nu(1-x)^\mu P_{2n+1}^{(\mu,\nu)}(x).$$

On the right replace $(-1)^{n+1}$ by $(-1)^n$.

3.3(4): On the left replace $P_n^{(\nu,\nu)}$ by $P_n^{(\nu,\mu)}$.

This formula implies 1.10(5), 1.10(6), 2.10(6) and 2.10(7).