Physics of the Interstellar and Intergalactic Medium

Errata in the sixth printing.
Updated 2019.04.18

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Which printing of the book you have can be determined from the last line on the copyright page:

First printing: 1 3 5 7 9 10 8 6 4 2
Second printing: 3 5 7 9 10 8 6 4 2
Third printing: 3 5 7 9 10 8 6 4
Fourth printing: 5 7 9 10 8 6
Fifth printing: 5 7 9 10 8 6
Sixth printing: 7 9 10 8 6

Errata in the sixth printing.

- Plate 5 caption, typo:
  ...seen in Plate 6. → ...seen in Plate 4.
  noted 2018.04.07 by L. Bouma.

- §3.8, p. 31, Eq. (3.48), typo: change
  \[ I_{n\alpha} \propto A_{n\alpha} h \nu_{n\alpha} \int n[H(n)] ds \propto n^{-6} b_n \int n_c n(H^+) ds \]
  → \[ I_{n\alpha} \propto A_{n\alpha} h \nu_{n\alpha} \int n[H(n+1)] ds \propto n^{-6} b_{n+1} \int n_c n(H^+) ds \]
  noted 2019.02.06

- §10.2, sentence preceding Eq. (10.5): change
  ...the Gaunt factor from quantum-mechanical calculations is approximately
  → ...the Gaunt factor is approximately (Scheuer 1960)
  noted 2018.11.18 by S. Weinberg.

- §22.6, p. 256, footnote 6: the DDSCAT website has moved. Change
  noted 2019.03.25

- §34.4, p. 386, Eq. (34.10): sign mistake on RHS; change
  \[ -4\pi r^2 k \frac{dT}{dr} \]  
  → \[ 4\pi r^2 k \frac{dT}{dr} \]
  noted 2019.04.18 by G. Halevi.

- §37.1, p. 413, 2nd paragraph: Change
  Cases of astrophysical interest will normally have..
  → Many cases of astrophysical interest will have...
  noted 2018.04.09.
• §37.1, Eq. (37.8): The correction terms for \( u_R, x_R, u_D, \) and \( x_D \) can be improved by analyzing the full cubic equation (37.3): change

\[
\begin{align*}
  u_R &\approx 2c_2 \quad \rightarrow \quad u_R \approx 2c_2 \left[ 1 - \frac{2c_1^2 - 3v_{A1}^2}{8c_2^2} \right] \\
  x_R &\approx \frac{1}{2} + \frac{2c_1^2 + v_{A1}^2}{16c_2^2} \quad \rightarrow \quad x_R \approx \frac{1}{2} \\
  u_D &\approx \frac{2c_1^2 + v_{A1}^2}{4c_2} \quad \rightarrow \quad u_D \approx \frac{2c_1^2 + v_{A1}^2}{4c_2} \left[ 1 + \frac{2c_1^2 + v_{A1}^2}{8c_2^2} \right] \\
  x_D &\approx \frac{4c_2^2}{2c_1^2 + v_{A1}^2} \quad \rightarrow \quad x_D \approx \frac{4c_2^2}{2c_1^2 + v_{A1}^2} \left[ 1 - \frac{v_{A1}^2}{8c_2^2} \right]
\end{align*}
\]

noted 2018.02.19 by Woong-Tae Kim.

• Appendix G, p. 503, typo just before Eq. (G.7): change

\[
\text{...solution } x_0 = e^{-i\omega t} \quad \rightarrow \quad \text{...solution } x = x_0 e^{-i\omega t}.
\]

noted 2019.02.11

• Appendix I, p. 507, typo (15.78 \( \rightarrow \) 31.56): Eq. (I.7) should read

\[
\frac{Z e^2}{a_0 kT} = \frac{31.56Z}{T_3}
\]

noted 2019.01.14.