

List of mistakes and misprints

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This is a list of mistakes and misprints that have (unfortunately) appeared in my published works. It will be updated every time a new one is found.

Errare humanum est, perseverare autem diabolicum

Eur.Phys.J.A direct 26 (2005), s01, 1-30

I. APOLOGY

This is a list of mistakes and misprints that have been littered throughout the published paper that I have either written completely myself or co-authored along the years as a researcher for several different institutions. Sometimes the culprit is not entirely ours, sometimes, I must humbly admit, it is totally mine. Often the errors are just misprints or typos, but a few genuine mistakes are present, therefore I have determined to correct the errors as far as I can. Although this *errata corrige* might be of interest only to the very restricted circle of specialists in nuclear theory, I think that one of the first responsibility of a scientist is to try and aim ideally for absolute truth, even if of very little use for the crowds. When, as it often happens, this is unreachable, we must at least have the humility to backtrack and set it right as much as we can.

- In formula (2.8) a square root sign is missing on the numerical coefficient, the replacement is :

$$\frac{5}{4\pi} \rightarrow \sqrt{\frac{5}{4\pi}}$$

- In appendix B, formula (B.4) should be replaced with:

$$B(E\lambda) = \frac{2J_f + 1}{2J_i + 1} |\langle J_f | T(E\lambda) | J_i \rangle|^2$$

Eur. Phys. J. A 25, s01, 439-440 (2005)

- The index of ω just after eq. (6) should read $\omega_{L,R,n,\gamma}$

II. NOTATION

I will use the following notation to localize mistakes in the papers:

- pg. -page
- sect. -section
- cl. -column
- ln. -line

J. Phys. G: Nucl. Part. Phys. 29 (2003) 1341-1349

- Eq.(6), Eq.(9): The power of x should be divided by two, namely $(\mu+1/2)$. It can be proven that it is just a typo, because the transition rates are calculated exactly. In addition Eq.(7) in the subsequent work is correct.

PHYSICAL REVIEW C 78, 017301 (2008)

- The typesetting of Eq.(9) is totally wrong. As a result the various equations have not been split correctly and the vacuum state, upon which the boson creation operators act, has been forgotten. It should read as follows:

$$\begin{aligned} |\Phi(N_\pi + 1, N_\nu + 1; gs)\rangle &= (B_g^\pi)^{N_\pi+1} (B_g^\nu)^{N_\nu+1} |0\rangle \\ |\Phi(N_\pi + 1, N_\nu + 1; \beta)\rangle &= \\ n \left(\hat{N}_\pi (B_g^\pi)^{N_\pi} B_\beta^\pi (B_g^\nu)^{N_\nu+1} + \hat{N}_\nu (B_g^\pi)^{N_\pi+1} (B_g^\nu)^{N_\nu} B_\beta^\nu \right) |0\rangle \\ |\Phi(N_\pi + 1, N_\nu + 1; \gamma)\rangle &= \\ n \left(\hat{N}_\pi (B_g^\pi)^{N_\pi} B_\gamma^\pi (B_g^\nu)^{N_\nu+1} + \hat{N}_\nu (B_g^\pi)^{N_\pi+1} (B_g^\nu)^{N_\nu} B_\gamma^\nu \right) |0\rangle \\ |\Phi(N_\pi + 1, N_\nu + 1; M)\rangle &= \\ n \left(\hat{N}_\nu (B_g^\pi)^{N_\pi} B_M^\pi (B_g^\nu)^{N_\nu+1} - \hat{N}_\pi (B_g^\pi)^{N_\pi+1} (B_g^\nu)^{N_\nu} B_M^\nu \right) |0\rangle \end{aligned}$$

PHYSICAL REVIEW C 72, 061302(R) (2005)

- Notation: in several instances the wrong notation $spin^{BF(N)}$ has been used instead of the correct $spin^{BF}(N)$ where N was 5 or 6. The error appears in: pg.1, cl.2, ln.12 from bottom; pg.2, cl.1, ln.5 and ln.8 from bottom; in pg.3, cl.1, ln.7 and ln.17 from top; in pg.4, cl.1, ln.8 from top and cl.2, ln.8 from top.

PHYSICAL REVIEW C 82, 014317 (2010)

- pg.1, cl.2, ln.11 from bottom: the word symmetry should be erased as it is already contained in the acronym CPS.

J.PHYS.A:Math.Gen. 43, 065301 (2010)

I have received a comment this paper from F.M.Fernández [5] where a few mistakes are underlined. I thank him for this and I add and summarize his remarks in the following points.

- (F.M.F.) sect.2: The set of conditions only applies to the case in which all the particles have the same mass, although I did not say it explicitly. There is a slight inconsistency with pg. 1, sect.1, where I carry out a general discussion. In my defense I could say that there is a statement ("Several authors ...") where I say that others have studied cases with different masses.
- (F.M.F.) citing from [5]: "Many authors have found it more convenient to keep mixed derivatives in the kinetic energy [6] because otherwise the modified interparticle distances $r_{ij} = |\vec{r}_i - \vec{r}_j|$ in the potential energy function would make the calculation of matrix elements more complicated." and "Fernández and Echave [7] recently reviewed the problem of the separation of the center of mass in molecular systems. The transformations discussed there cannot be considered particular cases of those derived by Fortunato [4]; for that reason his treatment may not be as general as the author claimed." Indeed I realize now that my title was an overstatement.

J.PHYS.A:Math.Gen. 44, 145206 (2011)

- The two URL's in References [9] and [10] should be

modified by adding a tilde sign before the surnames of the authors: \sim degraaf and \sim fortunat.

Phys.Rev. C 86, 034311 (2012)

There are several unimportant misprints in this paper. After publication we still noticed the following:

- Sect. 2.A, third line: the ratio should look $E(4_1^+)/E(2_1^+)$
- Fig. 1: the upper panel should report the label $N_B = 12$ exactly as the lower panel reports $N_B = 9$
- Pag.9, first column, penultimate line: 'memeberships' should be replaced by 'members'
- Pag.12, about half second column: of course we meant ^{148}Nd and not ^{1148}Nd

Phys.Rev. C 90, 064301 (2014)

- pag.4, the value -475.0 displayed in column 2 of text is the value of G_2 , not the value of g_2 , according to definitions and to check with input files.

Eur. Phys. J. A 52 (2016) 209

Ref. 56 is mistaken **56. H. Sagawam**, the name of the first author should be: **56. H. Sagawa**,

Phys. Rev. C 90, 064301 (2014)

Unfortunately the position of the $p_{1/2}$ resonant state in Fig. 1, as well as the text in the first paragraph of Sect. II are erroneous. This resonance should be 1.27 MeV above the ground state $p_{3/2}$ resonance and not above the threshold. Therefore the line should have been drawn 2.059 MeV in Fig. 1. This datum is affecting the construction of coupled states in ^6He , therefore we should expect some modifications in the numbers and shape of our calculations.

Updates

First version: 11/03/2011. Updates: 11/03/2014, 04/11/2020, 15/03/2022

[1] L.Fortunato and A.Vitturi, J.Phys.G:Nucl.Part.Phys. **29** 1341-1349 (2003)

[2] L.Fortunato and A.Vitturi, J.Phys.G:Nucl.Part.Phys. **30** 627 - 635 (2004)

- [3] L.Fortunato, Phys.Rev. **C70**, 011302(R) (2004).
- [4] L.Fortunato, J.Phys.A:Math.Gen **43**, 065301 (2010)
- [5] F.M.Fernández, unpublished comment (26 Jan. 2010)
- [6] Sutcliffe B T, in Book The Concept of Molecular Structure, edited by Z. B. Maksic (Springer-Verlag, Berlin, Heidelberg, New York, London, Paris, Tokyo, Hong Kong, 1992), p. 1; Sutcliffe B T 1993 J. Chem. Soc. Faraday Trans. 89 2321; Sutcliffe B T, in Book The Decoupling of Nuclear from Electronic Motions in Molecules, edited by E. S. Kryachko and J. L. Calais (Kluwer Academic Publishers, Dordrecht, 1994), p. 53; Sutcliffe B T and Woolley R G 2005 Phys. Chem. Chem. Phys. 7 3664; Bhatia A K and Temkin A 1965 Phys. Rev. 137 A1335; Bhatia A K and Drachman R J 2003 J. Phys. B 36 1957.
- [7] F.M.Fernández and J.Echave, Nonadiabatic calculation of dipole moments, arXiv:0909.0873v1 [physics.chem-ph]