Tsybychev, Dmitri

Comments here represent types of errors noticed in a brief review of several pages of your manuscript. Use your ingenuity and the "find" feature of your word-processing software to find and correct all such errors—not just the ones mentioned.

<table>
<thead>
<tr>
<th>page</th>
<th>line</th>
<th>comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>iii</td>
<td>2</td>
<td>Do not use direct address (thank you) in acknowledgments page. Each sentence needs a clear subject and verb. [S/b a standard indent (5, 6, 7, or 8 spaces) for the first line of a new paragraph. Be consistent.]</td>
</tr>
<tr>
<td>iv</td>
<td>8</td>
<td><strong>Spacing:</strong> Double-space most text. Indent first lines of paragraphs consistently. Single-space headings, tables, figures, bulleted lists, equations, block quotes, and appendix matter (with only one blank line space before and after the single-spaced matter). No more than one blank line space anywhere.</td>
</tr>
<tr>
<td>iv</td>
<td>9</td>
<td>s/b High-Energy Physics [<strong>Hyphenating compound modifiers.</strong> Many compounds are hyphenated when used as adjectives before a noun—a well-known fact—but are treated as separate words when used as predicate adjectives: The fact is well known. Adverbial modifiers ending in <strong>ly</strong> should not be hyphenated: a publicly owned company]</td>
</tr>
<tr>
<td>iv</td>
<td>10</td>
<td>[Don't start a heading, sentence or title (except in a footnote) with an abbreviation (except Dr., Mrs., Mr., and so on); an acronym; a numeral; or a symbol. Also don’t start a heading or title with an article (a, an, the) unless it is the only way to avoid starting it with an abbreviation, acronym, numeral, or symbol.]</td>
</tr>
<tr>
<td>iv</td>
<td>1up</td>
<td>all 1st-level and 2nd-level subheadings s/b in title case</td>
</tr>
</tbody>
</table>

**Case:** Uppercase (LIKE THIS) is used only for major division headings. Even in an otherwise uppercase heading, use mixed case for correct scientific notation: OYSTERS AND Vibrio vulnificus BACTERIA

Title case (Like This) is used for 1st-level and 2nd-level subheadings. Capitalize the first letter of each principal word. Do not capitalize the first letter of articles (a, an, the); conjunctions (and, but, for, nor, or, so, yet); or prepositions (about, above, according to, across, after, against, along, amid, among, apart from, around, aside from, as to, at, because of, before, behind, below, beneath, beside, between, beyond, by, concerning, during, except, excepting, for, from, in, inside, instead of, into, of, off, on, on account of, onto, out, out of, outside, over, past, pending regarding, respecting, since, through, throughout, till, to, toward, under, underneath, until, unto, up, upon, with, within, without).

Sentence case (Like this) is used for 3rd-level subheadings and paragraph headings; for table headings, column headings, and cell entries; for figure headings and labels; for equations, bulleted lists and other lists; and, of course, for paragraph text. Capitalize the first letter of only the first word.

[Headings here must match exactly with actual headings in the text—so make corresponding changes there also.]

v 3up [Note: delete because you cannot have only one subheading at a given level. If you want, you can convert it to a paragraph heading (see subheading formats in Appendix D of the Guide) and not list it in the table of contents. Fix all such errors.]

vii 3 Some rules for list of tables and list of figures—apply throughout:
- Do not repeat Table in the table-number column; or Figure in the figure-number column.
- Align all table titles (and figure titles)—set a tab about 3 full character spaces to the right of the longest table(or figure) number. Carryover lines should be indented to this tab.
• Titles here must match exactly with actual titles in the captions (although the list-of-figures version can be briefer—just the beginning words—as long as it is identical space-for-space, cap-for-cap, letter-for-letter as far as it goes).
• Note: use a right tab to right align all page numbers under the page column heading, 1” from right edge of paper (from <Format><Paragraph><Tab><Dot leader>).
• Do not include notes, references, or descriptions of subparts in the list of tables or figures.

viii 1up Label and cite subparts of figures simply, logically, and consistently. Do not cite figures by location ("second part," "below," etc.). In the actual figure, give the subparts the labels A and B and C (etc.) [not A. and not (A)] to reduce punctuation clutter later—and to plan for consistent use. Then, in the figure legend (continuing immediately from the title—do not skip a line) describe the subparts like this:

Figure 1-1. General title of overall figure. A) Description of this subpart. B) Description of this subpart. C) Description of this subpart.

Fix subpart labels and figure headings throughout the entire manuscript. Format all figures consistently.]

ix 8up Rewrite all such figure titles—s/b general title only
xiv 12 Use past tense whenever discussing a study that already happened, including yours.
Use present (not future) tense when discussing the physical dissertation, which exists now (it is not something that "will" exist). Be consistent throughout.
xiv 4up rewrite for clarity
[Check all edits to be sure they make sense and are true. You know your field—I don’t. If it’s better, use it. If not, find out what was wrong originally (why it was unclear) and clarify it.]

1 9 I’m not sure if you should give an acronym (SM) if you aren’t going to use it—and I agree that it often doesn’t sound right to use SM in the text (line 11up, for example is fine as is). How is this handled in the literature of your field?

[Key terms. Use key terms consistently—do not vary them to spice it up. The spice should come from the unavoidable innate complexity of science; not from the human interference of unnecessarily complicated language. It is a good idea to keep a running list of key terms. Seek and destroy any variants.]

1 3up Use shorter sentences to maintain grammar and logic.
2 2 [I advise against putting quotation marks around words (or italicizing or capitalizing them) for emphasis. It is nearly impossible to be thoroughly consistent and logical when imposing these styles.]
2 10 s/b hundreds of billions of electron-Volts: GeV (1 GeV = 10⁹ eV).
[use a colon instead of a dash here—don’t use a dash before a number or symbol—it could be confused with a minus sign—fix throughout]
2 6up Do not hyphenate words at the end of a line—turn off the hyphenation feature.
2 1up s/b a semicolon between independent clauses
3 2 [Plural words. Forms such as data, criteria, phenomena, media, spectra, maxima, or minima require plural verbs and components—are, have, were, some, many, few, these, their—not is, has, little, this, and so on, which are used with the singular form.]
3 2 [Note: use semicolons to separate items in a series when one or more of the items is a phrase containing commas. Keep things together that belong together.]
3 5 s/b Some particles (neutrinos, for example) escape detection; thus a large
[Use parentheses as shown (when needed) to keep things together that belong together, especially in a sentence already using commas for another purpose.]
3 8 do not hyphenate because this is not a compound modifier (there’s no noun after it) here
s/b in the language of quantum gauge theories. Halzen and Martin [1] and Atchison and Hey [2] give a nice introduction to this. As the

[Superscript references, parenthetical references, and bracketed reference numbers cannot be subjects of sentences or objects of prepositions.] Fix all such occurrences!

[Note: I checked refs only up to page 5. A checkmark in pencil means it was in the ref list; and I penciled the page number next to the corresponding entry. Continue to check the entire manuscript for these things:
- Each ref cited in the text must appear in the reference list
- Names and years of refs in text should match exactly with names and years in ref list.
- Each ref in the reference list must be cited in the text.

s/b building blocks: quarks and leptons.

[Never put a colon after “as,” after a preposition, after a form of the verb ”to be,” after an active verb, or after any phrase or word that takes an object.]

s/b masses. Table 1-1 shows the properties of the known quarks and leptons. [use a hyphen and not a dash to form table, figure, and equation numbers—be consistent throughout]

Table titles should include only the table number and the table title. Notes belong in bottom row of table.

[Suggestions for more readable tables. Single-space all tables. Use left-alignment (ragged right) in all column entries. Use sentence case for elements of the table (heading, column headings, and cell entries). Indent any carryover lines in the actual table by 2 character spaces. Align decimals. Use full width of page (for smaller tables, you can keep the columns readably close, toward the left—and merely extend the lines to the right margin). Do not use bold, underlining, or vertical lines in tables. Go to <Format><Borders and shading> and remove all lines. Add one line under table heading; one under column-heading row; and one at end of table (before notes, if any). Table headings s/b at top of table. Indent carryover lines for table title so that 1st letter of 2nd line is directly under 1st letter of 1st word of 1st line. S/b only 1 single-spaced blank line before or after a table or figure. Here is an example:

<table>
<thead>
<tr>
<th>Breed</th>
<th>Size</th>
<th>Number admitted to animal shelters each month*</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocker spaniel</td>
<td>Medium</td>
<td>45,063</td>
<td>Adorable</td>
<td>Urinary incontinence</td>
</tr>
<tr>
<td>Labrador retriever</td>
<td>Large</td>
<td>732</td>
<td>Loves water</td>
<td>May chew and damage</td>
</tr>
<tr>
<td>Pit bull</td>
<td>Large</td>
<td>5,381</td>
<td>Safe with children</td>
<td>property as a puppy</td>
</tr>
<tr>
<td>Poodle</td>
<td>Small</td>
<td>296,540</td>
<td>Theft deterrent</td>
<td>Bites and won’t let go</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hair does not shed</td>
<td>Worst biters</td>
</tr>
</tbody>
</table>

* Not real data; made up to show decimal alignment.
Note: obtain written permission to borrow any copyrighted material and give full source here.

Obtain written permission to borrow any copyrighted material and give its full source in the notes section at the bottom of tables (or in the figure heading at the bottom of figures). For any table or figure that is borrowed from a copyrighted publication, you need to give a complete source (the
full reference PLUS the figure number and page number where it appeared in the original). Then you also (not part of the dissertation, but separate) need to give us permission letters for any copyrighted material you have used in your dissertation. See sample permission letter in Appendix G of the guide. Resolve all such matters throughout. If you do not get written permission, you must not use the figure or table. Although this requirement may not be enforced so much for masters’ theses, it is still the optimal approach ethically and professionally.

4 7up Convert all such passages to consistently formatted, simple, single-spaced bulleted lists.
Bulleted lists: Use bullets, not numbers. Align, capitalize, and punctuate simply, logically, and consistently. Bullet items s/b single-spaced and in sentence case. For short items with no carryover lines, no blank space is needed between items.

- Adopting a fractional step scheme (Chorin 1968, Ferziger and Peric 1996) allows a fast solution, but the flows are unsteady.
- Adopting a compact interpolation scheme (Ye et al. 1999) near the moving immersed boundaries retains second-order accuracy and retains the conservation property of the solver.

5 8 s/b (i.e., a photon) or can carry a charge conserved under a given
A few rules:

- The abbreviation “et al.” is for a Latin term meaning “and others.” “Et” is a complete word (meaning and) so it does not get a period: “al.” does. Do not put a comma between the author's name and et al.
- The abbreviation “i.e.” is for a Latin term meaning “that is”—it s/b followed by a comma.
- The abbreviation “e.g.” is for a Latin term meaning “for example”—it s/b followed by a comma.
- In formal writing, “i.e.” and “e.g.” and “etc.” are only used in parentheses.
- Do not say “e.g.” or “see” or anything else when citing a ref, table, or figure. Just cite it.
- Don't say “e.g.” then list items, then say “etc.”—this is redundant—use either “e.g.” or “etc.”—not both

5 4up s/b among carriers of the electromagnetic field—photons, and charged fermions (quarks or leptons)—and conservation of the electric charge. Both
[Use “between” to refer to two things. Use “among” to refer to more than two things.]
Dashes. An em dash behaves like a colon except that it can appear in pairs—one before and one after the interjection—and got its name because it is the space occupied by a letter m. An em dash—or its equivalent, two hyphens—is also used in tables to indicate "no data" in a particular cell. Never use a single hyphen when an em dash is needed.

- a hyphen looks like this -
- an en dash looks like this –
- and an em dash looks like this —.

An en dash is half the length of an em dash and longer than a hyphen. An en dash is used to show a range between numerals (a month has 28–31 days). In some contexts, an en dash can be confused with a minus sign, so some styles prefer "to" instead of an en dash for this use.)
You create n-dashes and m-dashes by going to the "Insert" menu, then choosing

5 1up s/b constant α. or constant, α. [s/b no dash here—fix all such errors]
6 11 Don’t put a superscript key to a note (or a ref, or anything else) where it looks like the object of sentence—write this some other way.
6 11up s/b Glashow [4], Weinberg [5], and Salam [6] proposed a new theory that unified
[Cite the ref as soon as you mention the author(s)—not at the end of the sentence. We give only the last name of the author here, not first initials—fix throughout.]
7 7 Should Higgs be capitalized? Consult the best literature of your field and be consistent.
7 5up [That vs which. Consistent use of that for restrictive clauses and which for nonrestrictive clauses, which are set off with commas, will help make your writing clear and precise.]
2up s/b into groups called [run spell-check feature carefully—and remember that it does not work for uppercase]

6up unify key terms—don't call it a way and then a "models of the first type" and then "examples of such theories"—remove all ambiguity

8up s/b (2-1) to avoid confusion with section numbers

[Table, figure, and equation numbers should be coded to chapter number or appendix letter using hyphens. Cite tables (Table 2-4), figures (Figure 2-3), and equations (Eq. 2-2) only by number and NOT by position (NOT "the table above" or "the figure below" or "this equation")

Fix all equations. The equation should begin at the standard paragraph indent. The equation number s/b coded to chapter and s/b in parentheses next to the equation; but when you cite the equation in the text, do not parenthesize the number, and always put the word Equation before the number when citing (okay to abbreviate as Eq. unless it's the first word of a sentence).]

4 s/b shown in Figure 2-1. [Note: capitalize words that identify a particular representative of a group (such as Experiment 3, Day 5, Equation 7, etc.—but you don't have to capitalize the word if it is after the number, as in 3 experiments, 5 days, or 7 equations.) Fix all.]

4 get rid of all such gaps—s/b only 1 blank line space before and after body of figure—fix all

[Suggestions for more readable figure legends: use full width of page. Put figure number flush left. Then a period. Then two spaces. Then the figure title. Indent carryover lines of the figure title so that the first letter of the 2nd line is directly under the first letter of first line. S/b only 1 single-spaced blank line before and after a figure (considering the figure and figure legend as a unit, with only 1 single-spaced blank line between the figure and the figure legend.). Page and figure numbers, titles, and any supplementary information should be printed or typed on the reproduced image with the same typeface as the rest of the manuscript.]

6up Generally, simple titles should not have a period at the end

1 s/b no title at top of figure—s/b only in figure heading at bottom—fix all

Font size: Use the same font (a standard font); style (normal—not bold or italic); and size (either 11 or 12 points) throughout entire manuscript (tables and figures too, if possible). Use bold only for subheadings.

25 Remove frames from around all figures, to eliminate visual clutter

31 paragraph-heading paragraphs s/b continuous (on same line as heading)—fix all

32 Paragraph headings s/b in sentence case—fix all

Review subheading formats in Appendix D of the Guide.

44 [Never put a colon after "as," after a preposition, after a form of the verb "to be," after an active verb, or after any phrase or word that takes an object.]

49 s/b an equals sign instead of a hyphen here—fix all—never put spaces around a hyphen

90 Bullet items s/b in sentence case. Spell out numerals when they are the first word of a sentence, title, or bullet item.

1up Text flow: Paragraph text flow must be continuous throughout the entire major division. No text page can end shorter than 1" from bottom margin except the last page of a major division. Do not start a new page for subdivisions. If necessary, put tables and figures at the end of the chapter instead of inserting them in the text.

110 #1 don't use uppercase for titles

110 #1 [Closing quotation marks belong OUTSIDE the punctuation.]

110 #3 [Note: Each web reference needs an author, a title, a year, a publisher, a place accessed, and a date (month/year) accessed. Fix all.]

110 #4 After the journal's volume number, does your chosen ref style require a colon with no space; a comma with a space, or just a space? Find out and be consistent throughout.

[References: Use one existing ref system consistently in all its particularities. Notice order, spacing, and punctuation. Notice whether the article titles are in title case or in sentence case. Notice whether they put a comma between the last name and first initials. Notice whether they put "and" before
the last author. Notice everything. Format all of your references to be consistent with this style. Single-space the ref list, with a blank line space between entries.]

110  #4  S/b no comma after journal name—fix all
110  #10 Do not use "et al." in the list of references—you must list all authors here (or if there are more than 10 authors, list the first 10 et al.)
And what are these parenthesized notes (CDF Collab.)—does this belong here—is it retrieval info?
110  #19 Delete personal communications from ref list and give only in parentheses in the text.
[Note: Is it a book? If so, it needs city, state, and publisher. Is it a journal article? If so, it needs a journal name, volume, and page numbers. Meeting proceedings should have the city, state, and dates of the meeting. Proceedings publication info needs to be complete, including volume or year or season; and page number or abstract number. If it is not a book, an article, or published proceedings, it probably is not retrievable. For a citation to be included in the list of references, a reader must be able to go the library and retrieve it. Otherwise it s/b deleted from the References section (but the complete citation can be included in parentheses in the text). Fix all such errors and omissions.]
111  1 Is this a journal name? Whatever it is, it probably s/b in title case instead of uppercase. If it is some sort of report, give the full mailing address, so that the reader can retrieve it somehow.
111  #27 always give city and state of institution for thesis or dissertation refs

Signature pages:
- S/b Cochair
- S/b Associate Scientist of Physics
- Indent carryover line of Nishida's title
- S/b no college dean signature block—Liberal Arts and Sciences doesn't require it anymore

ETD Signature pages: Use the ETD signature pages listed below instead of traditional signature pages. If you do an ETD, go to http://gradschool.rgp.ufl.edu/pdf/etd/guide.pdf and look in Appendix E for these forms:

- Electronic Thesis and Dissertation (ETD) Signature Page
- Electronic Thesis and Dissertation (ETD) Rights and Permission form

Fill them out online then print a draft for the Editorial Office to check. Go back online and make those corrections, then print the forms on 20-pound, 100% cotton bond to be fully signed at your Final Examination (defense).

Correct your thesis or dissertation as directed by your committee and your editorial reviewer. When it is completely finished with the titles and headings in the table of contents linked in blue to the appropriate titles and headings in the text, create a pdf titled Surname_Initial.pdf. Submit the pdf through the ETD interface https://apps.rgp.ufl.edu/edm_app/etd_login.cfm by Monday, December 8th at 5pm. This is earlier than the deadline for students doing paper final submission (this is because we must check the links for electronic final submissions).

PLEASE BE AWARE that the pdf you submit on December 8th is meant to be acceptable and will not be released once we approve it (this is no longer the time for drafts and reviews). You are responsible for making any necessary changes BEFORE submitting your pdf on December 8th. We will not release your pdf once we accept it “as is.” Once you submit your pdf to the ETD interface, you have surrendered the right to revise it.
ALSO BE AWARE that final submission is not complete until we notify you (through the ETD interface) that your ETD has been accepted. After submitting your final pdf, if you have not received a response within two working days, please call our office to verify that your ETD has been received.

All final submission materials, including those listed below are due by Monday, December 15th at 5pm.

- 5 copies of academic abstract on 100% cotton (without page numbers)
- 1 extra copy of title page
- 1 extra copy of biographical sketch