| **Page** | **Section** | **Line** | **Type** | **Comment/ Rationale** | **Source of Comment (Name/Agency)** | **Suggested Disposition** | **Disposition****(Completed by Principal Editor)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ii | Foreword | para1, last sentence | ed/te | The last sentence of the first paragraph in the foreword is left over from a much earlier version, I'm pretty sure. | David S. Berry / NASA | Remove last sentence of first paragaph (i.e., "This version of the Green Book... tracking data.") |  |
| 1-1 | 1.1 |  | ed | There is a dash and a period "- ." after the end of the text. | David S. Berry / NASA | Remove the "- ." |  |
| 1-1 | 1.3(b) |  | ed/te | The current text was probably accurate at one point, but it is no longer applicable. | David S. Berry / NASA | Replace existing text with something regarding data types and units. |  |
| 1-3 thru 1-4 | 1.4 | All | ed/te | I don't know what's going on here. It looks incomplete or like a work in progress. It also appears to duplicate material on pages 1-5 thru 1-7 | David S. Berry / NASA | Clean up, synchronize, or delete. |  |
| 1-6 | 1.4 | [22] | ed/te | The reference for [22] has a reference entry for [23] embedded... but it's a different [23] than the one recorded in [23]. | David S. Berry / NASA | Looks like one of the [23] entries will have to become [33] maybe? |  |
| 1-7 | 1.4 | [32] | ed/te | There is a note "SPG4" after the link address that is not correct. | David S. Berry / NASA | From: "SPG4"To: "SGP4" |  |
| 2-2 | 2.3 | last para | ed | This paragraph is 100% repeated from text in Section 2.2.2 | David S. Berry / NASA | Delete this duplicate, leaving 2.2.2 intact. |  |
| 2-2 | 2.4 | All | ed | This paragraph is largely repeated from text in Section 1.3, where it more properly belongs. | David S. Berry / NASA | Remove section 2.4 |  |
| 3-3 | 3.2 | Table 3-1 | ed | Units error on "Range" | David S. Berry / NASA | From: "Km"To: "km" (case matters) |  |
| 3-3 | 3.2 | Table 3-1 | ed | Blank line in table between "Integrated Doppler count" and "Rate Sensors" | David S. Berry / NASA | Delete the blank line. |  |
| 3-4 | 3.2 | Table 3-2 | ed | Units error on "Power" | David S. Berry / NASA | From: "Kg"To: "kg" (case matters) |  |
| 3-4 | 3.2 | Table 3-3 | ed/te | Missing entry... all of the entries in this table are discussed in the document. We can add "Antenna Type" to the list. | David S. Berry / NASA | Add "Antenna Type" |  |
| 3-4 | 3.2 | Table 3-3 | ed/te | The "Units" column in the table mostly has "-" as the applicable units. | David S. Berry / NASA | Suggest changing "-" to "N/A". |  |
| 4-1 | 4.1 | 1 | ed | Remove extra word | David S. Berry / NASA | From: "... which are the pieces of information..."To: "... which are pieces of information..." |  |
| 4-1 | 4.1 | last | ed | Double period: ". ." | David S. Berry / NASA | Remove second period |  |
| 4-1 | 4.2 | Title | ed/te | The title is incomplete relative to the text. | David S. Berry / NASA | From: "QUALITY"To: "PHYSICAL CONSTANTS AND DATA QUALITY" |  |
| 4-3 | 4.3.4.2 | 7 | ed | Sentence looks incomplete: "... with an accuracy of 0.003 as (reference [2,7]." | David S. Berry / NASA | The meaning here for "as" is the abbreviation of "arc second", however, this units abbreviation is never used again in the document, and the subject sentence looks like it's missing a word or words after "as". I suggest:From: "0.01 arc second (as),"To: "0.01 arc second,"From: "0.003 as"To: "0.003 arc second" |  |
| 4-9 | 4.4.1 | para 2 | ed | Qualifying word, given that we will have lots of material on time systems on SANA in the relatively near future. Add "some" to indicate that we won't have a full set in this document. | David S. Berry / NASA | From: "This subsection provides definitions..."To: "This subsection provides some definitions..." |  |
| 4-10 | Figure 4-5 |  | te | We should have a more current figure if possible. | David S. Berry / NASA | I suggest contacting Dave Vallado dvallado@agi.com to see if he has a more current figure. |  |
| 4-10 | 4.4.2.2.2 | 3 | ed | Missing possessive indicator | David S. Berry / NASA | From: EarthsTo: "Earth's" |  |
| 4-10 | 4.4.2.2.2 | 3 | ed | The title of the next section "Terrestrial Time" is attached to the end. | David S. Berry / NASA | Separate "Terrestrial Time" from the preceding sentences, and make it a title. |  |
| 4-10 | 4.4.2.2.2 |  | te | There is no reference provided for the source of the LG value. | David S. Berry / NASA | Provide a reference. |  |
| 4-11 | 4.4.2.2.3 |  | te | There is no reference provided for the difference between TAI and TT. | David S. Berry / NASA | Provide a reference. |  |
| 4-11 | 4.4.2.2.4 |  | te | There is no reference provided for the difference between TAI and GPS. | David S. Berry / NASA | Provide a reference. |  |
| 4-11 | 4.4.2.2.5 |  | te | There is no reference provided for the definition of GMST. | David S. Berry / NASA | Provide a reference. |  |
| 4-11 | 4.4.2.2.5 |  | te | It may be desirable to add the term "hour angle" to the Glossary. | David S. Berry / NASA | Consider |  |
| 4-11 | 4.4.2.2.7 | para 1, last line | ed | At the end of the first paragraph, there is something that looks like references (but may be something else (?)) | David S. Berry / NASA | From: [1.25]To: [1, 25] ??? |  |
| 4-12 | 4.4.2.3.1 | last | ed | Missing period. | David S. Berry / NASA | Add period at end of sentence. |  |
| 4-12 | 4.4.2.3.2 |  | ed | Typo. | David S. Berry / NASA | From: "relativistic times"To: "relativistic time" |  |
| 4-12 to 4-13 | 4.4.2.4 |  | ed/te | We could consider deleting this section and the associated diagram Figure 4-6 if we cannot get an acceptable update. | David S. Berry / NASA | Consider. |  |
| 4-14 | 4.6 | 2-3 | ed | Missing word ? The sentence "Unless otherwise specified... recommended by " seems to run into the next sentence "The IERS recommends models...". After "by" and before "The" there is either a missing word(s) or the sentence needs to be smoothed out. The current Green Book (version 3) simply states "Unless otherwise specified, the international community uses models recommended by the IERS(www.iers.org). | David S. Berry / NASA | I don't know the intent here, so don't have a suggestion other than that the current sentence seems to combine 2 thoughts and is incoherent as written. |  |
| 4-14 | 4.7.1.1 | All | ed | The text for 4.7.1 seems to have been interpreted as a "Heading 4" type. The "BACKGROUND TERMS..." is probably meant to be the Heading type. | David S. Berry / NASA | Fix |  |
| 4-14 | 4.7.1.1 |  | ed | Typo | David S. Berry / NASA | From: "...helpful [14,22}"To : "...helpful [14,22]" |  |
| 4-14 | 4.7.1.1 |  | ed | The text is written so that in the phrase "from 90 to -90", the negative sign is at the end of the line and the 90 is at the beginning of the next line. Fix this so that the "-90" is all on the same line so the sign doesn't get missed. | David S. Berry / NASA | Fix.From: -90To: -90 |  |
| 4-14 | 4.7.1.1 | last para | ed | Font change in the keyhole paragraph. | David S. Berry / NASA | Make the font in lines 2 and 3 consistent with surrounding text. |  |
| 4-15 | 4.7.2 | 3 | ed | Uses "HA" instead of "RA" in RADEC discussion... is this correct? | David S. Berry / NASA | Check. |  |
| 5-1 | Table 5-1 |  | ed | The caption for the Table is not separated from the preceding text. | David S. Berry / NASA | Fix. |  |
| 5-3 | Figure 5-1 |  | ed | Just above Figure 5-1, there is an "Error! Reference source not found" message. | David S. Berry / NASA | Fix. |  |
| 5-6 | 5.2.5 | 4 | te | Says "An ephemeris may be definitive, predictive, or both." I think "both" should be qualified. I'd say the ephemeris can be definitive up to some data cutoff point, and predictive thereafter. | David S. Berry / NASA | From: "... or both"To: "... or a combination of both". |  |
| 5-6 | 5.3.1, 5.3.2 |  | te/ed | Portions of the 3 paragraphs in these two sections are very redundant. | David S. Berry / NASA | Reduce the redundancy. |  |
| 5-6 | 5.3.2 | para2, next to last line. | te/ed | The last paragraph in 5.3.2 contrasts "active" and "passive" rotations. Then in the next to last line of the paragraph, the term "attitude rotation" is used. Consistency is suggested here. | David S. Berry / NASA | From: "... not be confused with an attitude rotation"To: "... not be confused with a passive rotation" |  |
| 5-7 | 5.3.4 |  | ed | In the list of stabilization modes, the first 3 entries are not capitalized, then the last "Uncontrolled" is capitalized. | David S. Berry / NASA | Be consistent. Either capitalize all or uncapitalize all. Suggest change from "U" to "u". |  |
| 5-7 | 5.3.4 |  | ed | In the list of "attitude elements needed at a given time", the first entry is "given time". This seems redundant. | David S. Berry / NASA | Either remove "given time" from the list, or change the introductory phrase to "The attitude elements needed are as follows:" |  |
| 5-7 | 5.3.4 |  | te | The formulation of the unit quaternion has the cosine term in the opposite position as Alain is using in the ADM. | David S. Berry / NASA | Please consult with Alain and ensure that the Green Book and ADM are consistent. |  |
| 5-8 | entire page |  | te | This page needs to be coordinated with Alain and Julie to ensure consistency with the ADM. | David S. Berry / NASA | Coordinate with Alain and Julie. |  |
| 5-13 | 5.5.3 |  | te | No units are provided for the quantities | David S. Berry / NASA | Provide units, as was done for the SRP model in 5.5.2:Satellite cross section (m2)Spacecraft mass (kg)Density (kg m-3)Velocity (m s-1) |  |
| 5-13 | 5.6 | last line | ed | Font change  | David S. Berry / NASA | Make the font in last line consistent with preceding text. |  |
| 6-1 | 6.1 |  | ed | There is a double period at the end of the paragraph (". .") | David S. Berry / NASA | Remove redundant period. |  |
| 6-2 | 6.2.2.2 | 4-5 | te/ed | Uses term "ground-satellite", but we have a different term defined in the doc. | David S. Berry / NASA | From: "ground-satellite"To: "ground-to-flight" |  |
| 6-2 | 6.2.2.2 | next to last | ed | Missing period. | David S. Berry / NASA | From: "... relay satellite) Pseudo noise..."To: "... relay satellite). Pseudo noise..." |  |
| 6-2 | 6.2.2.3 | 2 | ed | Extra word | David S. Berry / NASA | From: "... sending an a ground-to-flight..."To: "... sending a ground-to-flight..." |  |
| 6-4 | 6.2.2.4 | 2 | te/ed | Word choice | David S. Berry / NASA | From: "... communications trail."To: "... communications path." (Note this will make it more consistent with the TDM, where we use the keyword "PATH".) |  |
| 6-6 | 6.2.2.7 | para 2, lines 5-11 | ed/te | The material starting in para 2, line 5 "If the receiving station on the Earth..." and extending through the end of the paragraph is really more applicable to the discussion of 3-way on page 6-3 in section 6.2.2.3.  | David S. Berry / NASA | I suggest moving the text described to p.6-3, after the discussion of 3-way communications. You may need to delete a bit of the moved material to avoid redundancy. |  |
| 6-6 | 6.2.2.8 | 2 | ed/te | I suggest modifying the second sentence. | David S. Berry / NASA | From: "Tracking stations at various locations around the Earth track..."To: "Two tracking stations separated by a long baseline (typically several thousand kilometers) track..." |  |
| 6-10 | 6.3.4 |  | te | You state at end of paragraph 1: "For this reason, star magnitudes are attitude measurements". This doesn't ring completely true, but I think a word change could improve it. | David S. Berry / NASA | From: "For this reason, ..."To: "When used in this manner, ..." |  |
| A-1 | Glossary |  | te | On "Flight-to-ground", there is a directionality implied that is missing. | David S. Berry / NASA | From: "The set of exchanges between..."To: "The set of downlink exchanges between..." |  |
| A-1 | Glossary |  | te | On "Frame origin", I would add a phrase. | David S. Berry / NASA | From: "... axes."To: "... axes in a coordinate frame." |  |
| A-2 | Glossary |  | te | GPS is a US system, correct? | David S. Berry / NASA | Somewhere in the definition, add "United States" |  |
| A-2 | Glossary |  | te | On "Ground-to-flight", there is a directionality implied that is missing. | David S. Berry / NASA | From: "The set of exchanges between any one spacecraft participant and a non-spacecraft participant."To: "The set of uplink exchanges between a non-spacecraft participant and a spacecraft participant." |  |
| B-2 | Acronyms |  | ed | On "MET", missing ending parenthesis | David S. Berry / NASA | From: "... typically launch"To: "... typically launch)" |  |
| B-2 | Acronyms |  | ed | The acronyms MOON\_ME, MOON\_MEIAUE, MOON\_PA are not used in the document. | David S. Berry / NASA | Remove from Acronyms. |  |
| B-2 | Acronyms |  | ed | Given the previous item, it might be a good idea to do a complete "acronym scrub" of the document. There are probably others that are in Acronyms annex but not used, and some that are used but are not in the Annex. | David S. Berry / NASA | Consider. This will take an hour or so, but will improve the document. |  |
| B-2 | Acronyms |  | ed | RTLT and RTN are on the same line. | David S. Berry / NASA | Move RTN to its own line. |  |
| B-2 | Acronyms |  | ed | In "RTN", the word "transverse" is misspelled | David S. Berry / NASA | From: "Transvers"To: "Transverse" |  |