| **Page** | **Section** | **Line** | **Type** | **Comment/ Rationale** | **Source of Comment (Name/Agency)** | **Suggested Disposition** | **Final Disposition**  **(Do Not Fill In)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 3-3 | Table 3-2 |  | TE | Regarding CENTER\_NAME: There could be a different origin for both reference frames Q\_FRAME\_A and Q\_FRAME\_B | DLR/GSOC | CENTER\_NAME belongs to the coordinate frame, thus either use CENTER\_NAME\_A and CENTER\_NAME\_B together with Q\_FRAME\_A and Q\_FRAME\_B or define the coordinate systems unambiguously (i.e. use EME2000 really only for Earth-centered reference frames and use something else when using the EME2000 orientation with e.g. Mars in the center). |  |
| 3-4 | 3.2.4.1, Table 3-3 |  | TE | For block QUATERNION, the quaternion is given along with its derivative, but the rate needs to be given in a separate block. | DLR/GSOC | For compliance with AEM, one could use the values from ATTITUDE\_TYPE from table 4-3 here as well, i.e. use one block QUATERNION/DERIVATIVE and one block QUATERNION/ANGVEL. |  |
| 3-5 | Table 3-3 |  | TE | Q\_DIR not really needed, when using a proper definition; Rationale: this would ease software implementation (reduction of cases to be considered) | DLR/GSOC | Remove Q\_DIR and always transform from reference frame A to B. |  |
| 4-16 | Table 4-3 |  | TE | CENTER\_NAME: same issue as with Table 3-2, CENTER\_NAME, page 3-3 as described above | DLR/GSOC |  |  |
| 4-17 | Table 4-3 |  | TE | ATTITUDE \_DIR: same issue as with Table 3-3, Q\_DIR, page 3-5 as described above | DLR/GSOC | Remove ATTITUDE \_DIR and always transform from reference frame A to B. |  |
| 4-16 | Table 4-3 |  | ED | Reference frames are named REF\_FRAME\_A/B, compared to Q\_FRAME\_A/B in table 3-3 | DLR/GSOC | One could use one name for reference frames, i.e. either REF\_FRAME\_A/B or Q\_FRAME\_A/B, preferably REF\_FRAME\_A/B |  |
| 4-17 | Table 4-3 |  | TE | QUATERNION\_TYPE should be properly defined instead of letting the user choose it; Rationale: this would ease software implementation (reduction of cases to be considered) | DLR/GSOC | QUATERNION\_TYPE: As with APM, one should have a fixed definition. One should use the scalar part as 4th value. 🡺 Afterwards, table 4-4 on page 4-20 can be strongly simplified. |  |
| 5-1 | 5.4.1 |  | ED | Minor issue: 254 ASCII chars plus 2 line termination chars are more than 255 chars (which is considered as limit) | DLR/GSOC | It should say "... must not exceed 255 ASCII characters and spaces (including line termination character(s)", cause the line termination characters can be more than one char. Additionally, when using 255 chars per line, one cannot read them very well on screen or printed, thus it should be less (e.g. 80 chars). |  |
| F-1 & F-2 | Table F-1 |  | ED | Some links are broken in rows 7, 8, 12 and 14 | DLR/GSOC |  |  |
| In the following are some more general thoughts / comments on the ADM | | | | | | | |
| 2-1 | 2.1.3 and others |  | GE | Why not include several S/C in one AEM file? | DLR/GSOC | With the current AEM format, it should be possible without changing something. Example:  META\_START OBJECT\_NAME = OBJ\_1 … META\_STOP  DATA\_START … DATA\_END  META\_START OBJECT\_NAME = OBJ\_2 … META\_STOP  DATA\_START … DATA\_END |  |
| 3-7 | Table 3-3 |  | GE | INERTIA block: For APM, an inertia matrix can be given, but there is no possibility to specify a time-varying moment of inertia for the AEM (which may be needed, if one wants to calculate an angular momentum from the angular rates with a non-constant moment of inertia). | DLR/GSOC | Include moment of inertias in AEMs. |  |
| 5-5 | 5.8.3.2 | 1 | GE | Writing the attitude ephemeris accuracy / residuals into the comments section is not recommended since comments sections shall provide only additional information, which is not necessarily needed for an automated and complete reading of ADM files. | DLR/GSOC | Add fields for describing attitude ephemeris accuracy / residuals. It also may make sense to globally specify the machine precision. |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |