**Nuclear Data Section**

**International Atomic Energy Agency**

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**Memo CP-D/1020**

**Date:** 17 August 2021

**To:** Distribution

**From:** N. Otsuka

**Subject: Dictionary 21 (Methods) – ASEP, MASSP, OLMS**

Dictionary 21 defines four method codes for mass separation/spectrometry:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Code** | **Expansion** | **Date\*** | **Presence+** | **Entries** |
| AMS | Accelerator mass spectrometry | 199604 | Yes | 70 |
| ASEP | Separation by mass-separator | 198202 | Yes | 221 |
| MASSP | Mass spectrometry of a product | 199809 | No | 52 |
| OLMS | On-line mass separation | 198903 | Yes | 56 |

\*Date of the code in the backup dictionary 9079 (oldest backup dictionary on the NDS open area).

+Presence of the code in TRANS.9074 (N2=199801).

Among them the usage of AMS is rather clear. But it has been not clear (at least for me) how to utilize the rest three codes in a consistent manner.

Addition of OLMS is proposed in Memo CP-D/178 “Fission yields” in 1988. This memo mentions presence of ASEP.

MASSP is proposed in Memo CP-A/82 in 1997 with the following explanation:

“We have (AMS) now. But traditional mass spectrometry is absent now. MASSP code should be used for stable and long-lived products.”.

This proposal was approved in the NRDC 1998 meeting (C8), but it is not clear why we needed MASSP in addition to ASP and OLMS. I guess this code was used for the first time in O0277 and O0280 transmitted in TRANS.O006 for compilation of He and Ne isotope production cross sections determined by off-line mass spectrometry by Michel’s group.

Considering the history and number of entries using these codes, I propose to make MASSP obsolete, and to change the expansions of ASEP and OLMS to “off-line mass separation (spectrometry)” and “on-line mass separation (spectrometry)”, respectively.

**Dictionary 21 (Methods)**

ASEP (Change the expansion to “off-line mass separation of a product”)

MASSP (*Obsolete*)

OLMS (Change the expansion to “on-line mass separation of a product”)

If some articles mention mass separation but without any indication of off-line or on-line, the expansion of ASEP can be “mass separation of a product” with a remark “Use OLMS for on-line mass separation”.

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