

Dictionary 21 (Methods) – ASEP, MASSP, OLMS
(N. Otsuka, 2021-08-17, Memo CP-D/1020)

This paper seeks an approval to use ASEP for off-line mass separation and OLMS for on-line mass separation while to make MASSP obsolete.

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”.

Addition to Memo CP-D/1020 (Reference)

R.Klapisch, “Mass separation for nuclear reaction studies”, Ann. Rev. Nucl. Sci. 19 (1969) 33
(<http://dx.doi.org/10.1146/annurev.ns.19.120169.000341>)