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Memo CP-C/281

DATE: May 9, 2001
TO: Distribution
FROM: V. McLane
SUBJECT: Isobaric Analog States continued

I do not agree with the CAJaD proposal for the compilation of isobaric analog states. The purpose of the proposal given in memo CP-C/264 is that I do not believe that the compiler should attempt to calculate the energy of the analog state when only the energy of the isobar is given in the paper for the following reasons.

1. It is the general rule in EXFOR to give the data the experimentalist uses. This is the reason LVL-NUMB, for example, was invented.
2. The energy of the levels in the region of the isobar usually have not been studied, and in this region, there are usually many levels close in energy (a level soup).

I am therefore proposing two solutions. The first is the solution as given in memo CP-C/264; both solutions follow.

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Solution 1 (From Memo CP-C/264)

Coding

In the case where the experimentalist does not give the excitation energy of the isobaric analog state, the level number of the (N+1,Z) nucleus for which the isobaric analog state is given may be entered in the data section using the field heading ISO-NUMB, and the spin and parity, if given, may be specified under the keyword LEVEL-PROP.

Example:

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LEVEL-PROP          ( 23-V-46 , IAS-NUMB=0 . , SPIN=0 . , PARITY=+1 . )  
                    The isobaric analog state for the ground state of 46Ti.
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Solution 2

Coding

In the case where the experimentalist does not give the excitation energy of the isobaric analog state, the code IAS is entered in SF5 (in place of PAR). All information given is for the isobaric analog state for which the level information was given.

I'm sorry but I don't have time to find my examples right now, but will look for one. It's been too long since my initial proposal was made.