On the logical structure of the multiconfigurational dynamical symmetry

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Abstract

The multiconfigurational dynamical symmetry (MUSY) is the common intersection of the shell, quartet, cluster and collective models for the multi-shell problem [1, 2]. It is a composite symmetry of composite systems. The systems are composite because they contain different configurations. The symmetry is composite because it has (i) on one hand a usual dynamical symmetry in each configuration, and (ii) on the other hand connecting symmetries between the different configurations. The simple dynamical symmetries are well known and widely applied. The connecting symmetries, however, are much less investigated.

In this contribution we plan to discuss the varieties of the transformations connecting the different configurations [3]. It turns out that MUSY can be realized both with interactions, which are invariant with respect to these transformations (see e.g. [4]) , and with non-invariant interactions.

Some similarity to the logical structure of the dynamical supersymmetry is also pointed out.

References

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