

## ***Interactive comment on “EPR Study of NO radicals encased in modified open C60 Fullerenes” by Klaus-Peter Dinse et al.***

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This is a very interesting paper describing the EPR and ENDOR of a system in which single paramagnetic NO molecules are encapsulated in open-cage C60 fullerenes. A thorough analysis of the EPR data is given in terms of the g-tensor parameters and the ENDOR is analysed to obtain hyperfine coupling parameters to the  $^{14}\text{N}$  nucleus. The temperature-dependence of the EPR parameters and also relaxation times are analysed in terms of a postulated motional model of the encapsulated molecule. The paper describes fine experimental work on an exciting and novel physical system and is highly suitable for publication in MagRes. I have a few small proposals for possible improvements. 1. In the abstract, it is not very clear that the confining cage is not C60 but an open-cage variant (in fact two variants) of C60. This is important since the

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symmetry of the confining potential has a very strong influence on the behaviour of the confined system. 2. In the introduction, references are given to some of the molecular endofullerenes produced by the Kyoto group and others, but some important systems of this kind are omitted, for example the water endofullerene (Murata and co workers) and also the HF and CH4 endofullerenes (Whitby and co workers) 3. The ball and stick graphics in Fig.1 do not depict the chemical structures of these compounds clearly enough. They should be supplemented by ChemDraw-style line structures showing clearly the chemical nature of the orifice and the appended groups. 4. There are a few places where I felt that more references would be appropriate, especially for readers who are not highly conversant with EPR techniques. For example the PEANUT method is not referenced. No reference is given for the lambda value for NO (line after Eq.1). No explicit reference is given for the reported data on related systems (end of first paragraph on page 7). 5. It is not clear until quite late in the discussion that the hyperfine data refers to coupling to the  $^{14}\text{N}$  nucleus. 6. A comparison with the observations reported on the similar O2 system (Futagoishi et al.) would have been interesting and enhance the manuscript.

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