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A group theoretic treatment of f-electrons in endohedral fullerenes
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Abstract
The most abundant fullerene molecule, C60, has just the right size, chemical stability and activity to host a large variety of atoms. Endohedrally doped fullerenes has been synthesised in the past. A rare earth doped fullerene shows an icosahedral symmetry. A group theoretic treatment of f-electrons in a strong icosahedral crystal field has been discussed in the present study. This method shows a convenience over the conventional structures given by Racah for the treatment of f electrons in strong crystal fields. It is expected that it will make the perturbation calculations easier. These calculations will lead to an understanding of magnetic properties of nano devices.

Author Keywords
Endohedral fullerenes; F-electrons; Unitary group

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