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Crystal field parameters and g-factors of the ground kramers doublet of Ce³⁺ ion in LiYF₄ crystal

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Abstract

© Kazan Federal University (KFU). Analytical expressions are obtained for g-factors of the ground Kramers doublet of the impurity Ce³⁺ ions in LiYF₄ crystal that rigorously take into account mixing of the 2F_{5/2} and 2F_{7/2} multiplets by crystal field. Dependence of g-factors on crystal field parameters is studied and possibilities of making conclusions about crystal field parameters values on the basis of comparison with g-factors given in literature are considered.

Keywords

Crystal field parameters, G-factors, LiYF₄:Ce³⁺