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Crystal field parameters and g-factors of the ground kramers doublet of Ce3+ ion in LIYF4 crystal

Solovyev O.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

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 2F5/2 and 2F7/2 multiplets by crystal field. Dependence of g-factors on crystal field parameters is studied and possibilities of making conclusions about crystal filed parameters values on the basis of comparison with g-factors given in literature are considered.

Keywords

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