

Journal of Physics: Conference Series 2011 vol.324 N1

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## Quadratic non-Condon effect in optical spectra of impurity paramagnetic centers in dielectric crystals

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### Abstract

Analytical expressions for the absorption and luminescence form functions of impurity paramagnetic centers in dielectric crystals at zero temperature are derived in the adiabatic approximation taking into account the quadratic non-Condon effect. It is proved that, if the optical transition is forbidden due to symmetry selection rules, the non-Condon absorption and luminescence spectra are not mirror symmetric and can contain a zero-phonon line, contrary to the case of linear non-Condon effect. Conditions under which the zero-phonon line is contained in the optical spectra of a symmetry-forbidden transition are determined.

<http://dx.doi.org/10.1088/1742-6596/324/1/012035>

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