

A shell model for cross relaxation in elpasolite crystals: application to the 3P0 and 1G4 states of Cs₂NaY_{1-x}Pr_xCl₆

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A model for cross relaxation in high symmetry systems is developed. The positions of all acceptor ions and all multipole-multipole interactions may be included. The geometric factors are explicitly considered. A feature of the model is that it enables decay rates and the form of decay curves to be predicted a priori if the exponential decay curves of very dilute and stoichiometric materials are experimentally accessible. The model is applied to the title system and excellent agreement with experiment is achieved. © 1995.