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INVITATION

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Optical Absorption Intensities of Rare-Earth Ions

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Electric dipole transitions within the $4f$ shell of a rare-earth ion are permitted if the surroundings of the ion are such that its nucleus is not situated at a center of inversion. An expression is found for the oscillator strength of a transition between two states of the ground configuration $4f^n$, on the assumption that the

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Intensities of Crystal Spectra of Rare-Earth Ions*

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Magnetic and electric dipole transitions between levels of the $4f^n$ configuration perturbed by a static crystalline field are treated. The expression obtained for the pure electronic electric-dipole transition probability involves matrix elements of an even-order unit tensor between the two $4f^n$ states involved in the transition. The contributions to the transition probability from interactions, via the crystalline field, with the $ns^2 4f^{n-1}$, $4f^{n-1}nd$, $4f^{n-1}ng$ configurations are shown to add linearly, in such a manner as to multiply each odd k crystal field parameter A_k^q by a constant. If "J mixing" in the $4f^n$ configuration is neglected, ΔJ between the upper and lower $4f^n$ levels is restricted to six units or less. If "J mixing" is neglected then ΔL is also restricted to six units or less. Application is made to the fluorescence spectra of PrCl₃ and EuCl₃. Many of the missing and weak transitions are explained.

$$S_{a_j, a_j'} = \sum_{\lambda} \Omega_{\lambda} | \langle a_j || U^{(\lambda)} || a_j' \rangle |^2$$

Dear Colleagues,

On behalf of the organizers of the ICfE-8 in Udine, Italy, it is my honor and pleasure to announce that the upcoming gathering of all involved in the research on f-electron systems is marked by a historical event. On the program of the special session **“Golden anniversary of the Judd-Ofelt Theory celebrated with its progeny”** we are expecting the presence of none other than **Professors Brian Judd and George Ofelt!** This will be their second meeting in person; they met for the very first time during the 40th birthday of the Judd-Ofelt Theory celebrated in Łądek Zdrój, Poland.

Do not miss this opportunity to meet the authors of this fundamental theory, and founders of the field of spectroscopy of the lanthanide systems. The birthday celebration will be enriched by the reminiscences of the guests of honor, and the memories of those whose scientific careers are based on the J-O theory. This special session will be followed by a regular session **“The Spectroscopy and Theory”** during which the most interesting results of current research will be presented by the leading scientists in the field. This historical event will be concluded by the artistic addition to the scientific program with Professor Brian Judd’s piano recital.

If you have any ideas on how to make this celebration more festive and memorable, please inspire me by writing to me: Lidia.Smentek@Vanderbilt.edu

I hope to see you in Udine next year!

Lidia Smentek