Errata

Erratum: Relation between electron localization properties and infrared quenching of photoconductivity in hydrogenated amorphous silicon [Phys. Rev. B 37, 10 912 (1988)]

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In this paper, we argued that electron recombination by tunneling will be enhanced if the tunneling occurs at higher energy, where the density of states and the localization length are larger. According to Eq. (8), the quasi-Fermi-level is increased when infrared light is used as a second beam. Hence electron recombination is increased and a quenching in photoconductivity results according to Eqs. (9) and (10).

A problem has been pointed out recently[1] as follows: Under steady-state conditions, a thermal equilibrium between free and trapped electrons is established, so that an increase of the quasi-Fermi-level would result in an increase of the number of free carriers, and hence result in an enhancement, but not a quenching, in photoconductivity. This difficulty is avoided by the model of Carius, Fihs, and Schrimpf.[2] They argue that electron recombination is slow because of tunneling by holes. Infrared light enables holes to reach the recombination centers faster thereby increasing the recombination and decreasing photoconductivity.

[1]Hellmut Fritzsche (private communication).

[2]R. Carius, W. Fihs, and A. Schrimpf, in *Tetrahedrally-Bonded Amorphous Semiconductors,* edited by D. Adler and H. Fritzsche (Plenum, New York, 1985), p. 367.

Erratum: Density-functional approach to nonlinear-response coefficients of solids [Phys. Rev. B 39, 13 120 (1989)]

X. Gonze and J.-P. Vigneron

The first-order potential for phonons is given by the *opposite* of the right-hand side of Eq. (25).

The expression for the dynamical matrix Eq. (45) should be

$$N\sum_{\gamma,\gamma'} e_\gamma(\mathbf{q},j_1)\mathcal{A}^{\mathrm{el}}_{\gamma\gamma'}(\mathbf{q})e_{\gamma'}(\mathbf{q},j_2)=\int \tfrac{1}{2}v^{j_1}_{-\mathbf{q}}(\mathbf{r})n^{j_2}_{\mathbf{q}}(\mathbf{r})+\tfrac{1}{2}v^{j_2}_{\mathbf{q}}(\mathbf{r})n^{j_1}_{-\mathbf{q}}(\mathbf{r})+2v^{j_1 j_2}_{-\mathbf{q},\mathbf{q}}(\mathbf{r})n^{(0)}(\mathbf{r})d\mathbf{r}\ .$$

These modifications have no consequences in the remainder of the paper.

Erratum: Ce^{3+}:Na^{+} pairs in CaF_2 and SrF_2: Absorption and laser-excitation spectroscopy, and the observation of hole burning [Phys. Rev. B 40, 9930 (1989)]

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In the above referenced paper, there is a significant error that we wish to point out. What appeared to be a spectral hole in the fluorescence excitation spectrum is an experimental artifact. It resulted from sampling the fluorescence several millimeters away from the point at which the exciting beam entered the crystal. The strongly absorbing spectral features were not being excited at this point. Thus, the so-called spectral hole is an indication of a strongly absorbing spectral region and the conclusions stated in Secs. IV A and in VI (2) should be ignored. Figures 5, 6, and 7 showing the spectral hole are incorrect only in this respect.

Photoionization and trapping, which were invoked in this paper to explain the spectral hole, actually do occur, and an investigation of these phenomena has been made.

