

Erratum: Nonlinear spectroscopy of excitonic states in transition metal dichalcogenides [Phys. Rev. B **105**, 115436 (2022)]

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There are errors in some of the figures in this paper. The main changes are that the polarization pattern is predicted to change from C_6 to C_3 symmetry (not to C_2 symmetry) as a function of the excitation light intensity and energy as shown in Figs. 2, 3, and 4. In order to observe such changes under resonance conditions, the excitation laser intensity has to be reduced from 150 GW/cm^2 (as stated in the original paper) to 6 GW/cm^2 or driving amplitude reduced from $f = 0.1 \text{ \AA}^{-1}$ to $f = 0.02 \text{ \AA}^{-1}$. Otherwise, the paper text and conclusions remain valid.

We thank J. Quereda (Universidad Complutense de Madrid) for pointing out these errors.

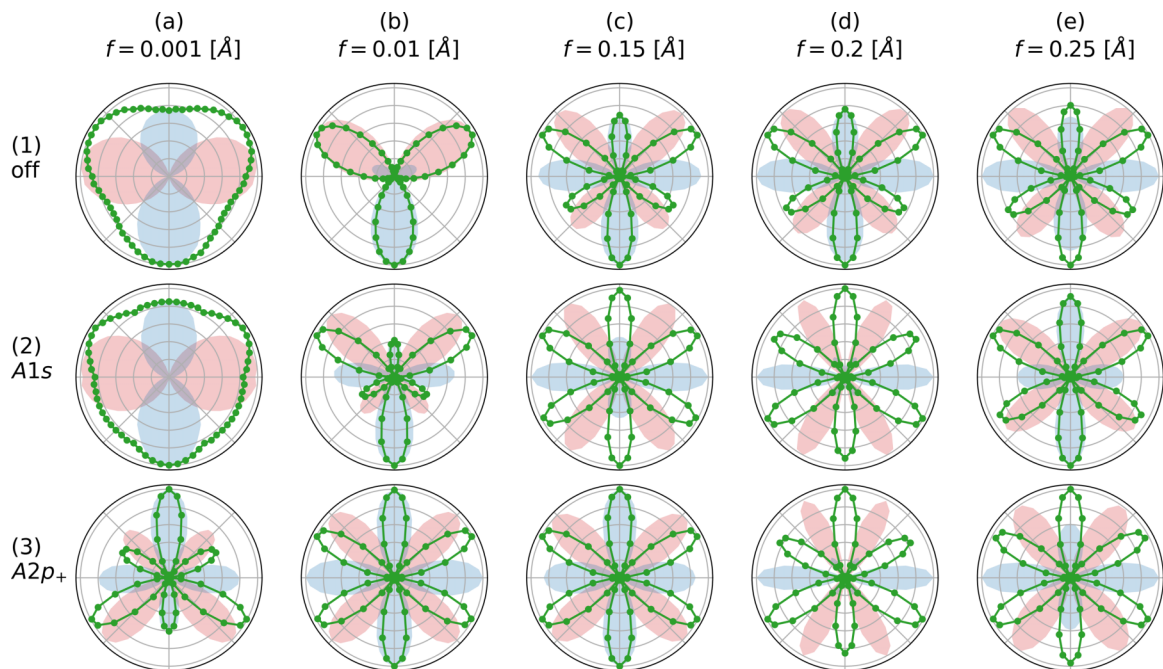


FIG. 2. Polarization angle dependence of second-harmonic generation (SHG) intensity (green points) and polarization components $|\bar{P}^x|^2$ (red shading) and $|\bar{P}^y|^2$ (blue shading) calculated at (a) $f = 10^{-3} \text{ \AA}^{-1}$, (b) $f = 10^{-2} \text{ \AA}^{-1}$, (c) $f = 0.15 \text{ \AA}^{-1}$, (d) $f = 0.2 \text{ \AA}^{-1}$, and (e) $f = 0.25 \text{ \AA}^{-1}$. Top row: off-resonant excitation with $\hbar\omega_L = 0.35 \text{ eV}$; middle row: $\hbar\omega_L = 1.015 \text{ eV}$ is in resonance with the energy of the $A1s$ exciton; bottom row: $\hbar\omega_L = 1.14 \text{ eV}$ is in resonance with the $A2p_+$ exciton. The results are normalized to their maximal values.

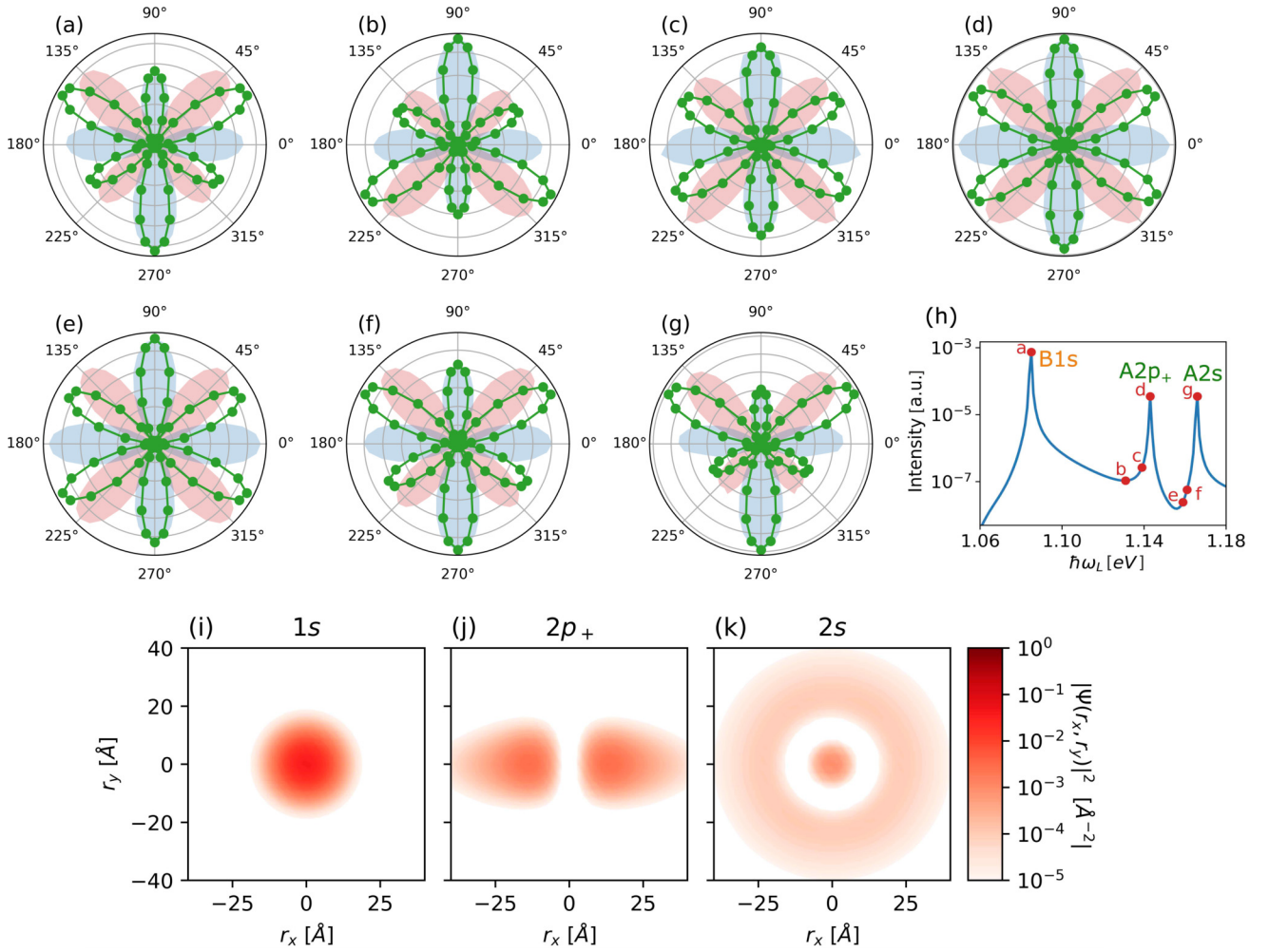


FIG. 3. Angular dependence of I and $|P_{x,y}|^2$ for the SHG in the MoS₂ monolayer (a)–(g), calculated for driving field energies $\hbar\omega_L$ marked by the red points in panel (h). The driving amplitude is $f = 0.02 \text{ \AA}^{-1}$, which corresponds to laser intensity of $I \simeq 6 \text{ GW/cm}^2$. Panels (i)–(k) show spatial profiles of the exciton wave amplitude $|\Psi|^2$ as a function of the electron-hole coordinate difference, calculated for excitonic states 1s, 2p₊, and 2s.

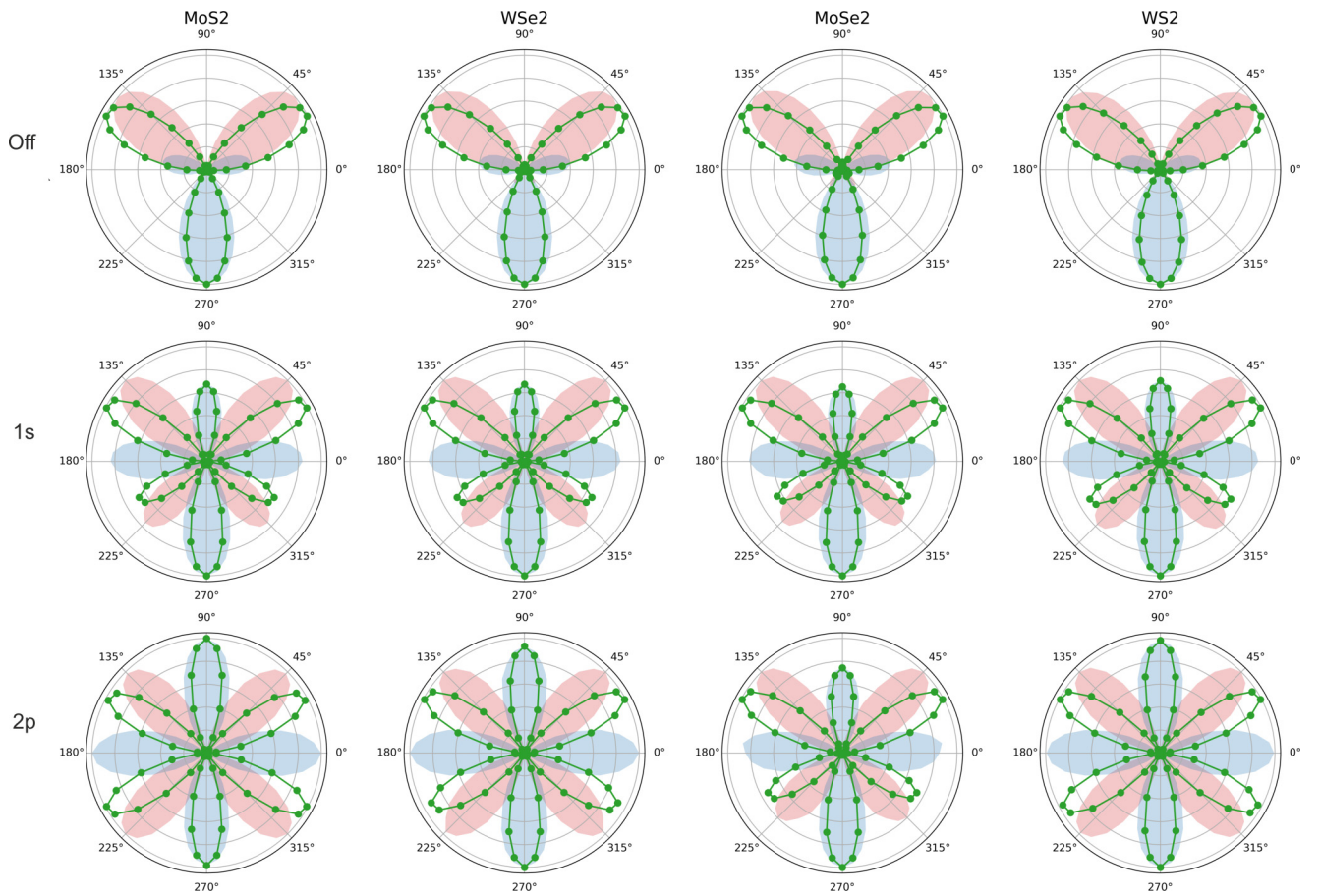


FIG. 4. Angular dependence of the SHG intensity (green points) and polarization components $|P_x|^2$ (red shading) and $|P_y|^2$ (blue shading) for the driving amplitude $f = 0.02 \text{ \AA}^{-1}$, calculated for monolayers MoS₂, MoSe₂, WS₂, and WSe₂ (panel columns) for the off-resonant driving with $\hbar\omega_L = 0.35 \text{ eV}$ (top row) at resonance with the $A1s$ state (middle row) and at resonance with the $A2p_+$ state (bottom row).