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Supplementary information

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Imaging the crystal orientation of 2D transition metal dichalcogenides using polarization-resolved second-harmonic generation

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This file includes:

Video S1: PSHG modulation

Figure S1 | Integration of the experimentally detected PSHG intensity, for $\varphi \in [0°–90°]$ with step 1°, presented in the form of a surface plot.

Supplementary information for this paper is available at https://doi.org/10.29026/oea.2019.190026

The supplementary information consists of one movie and one plot (Fig. S1).

The video, named 'PSHG modulation', is available at https://doi.org/10.29026/oea.2019.190026. It shows the experimentally detected PSHG modulation, for $\varphi \in [0°–360°]$ with step 1°, where φ describes the orientation of the linear polarization of the excitation laser beam. The orientation of φ is shown in the video as the rotating double arrow at the right bottom corner of the frames. The scale bar depicted corresponds to 10 μm.

As can be seen, the rotation of φ clearly shows the switching on and off of the SHG signal, allowing us to extract valuable information of the crystallographic orientation of the lattice. See also Fig. 5 for individual snapshots of this animated modulation.

The following plot, on the other hand, shows the summation of the detected PSHG intensity, for $\varphi \in [0°–90°]$ with step 1°, in the form of a surface plot (Fig. S1). See also Fig. 6 for a 2D demonstration of the same measurements.

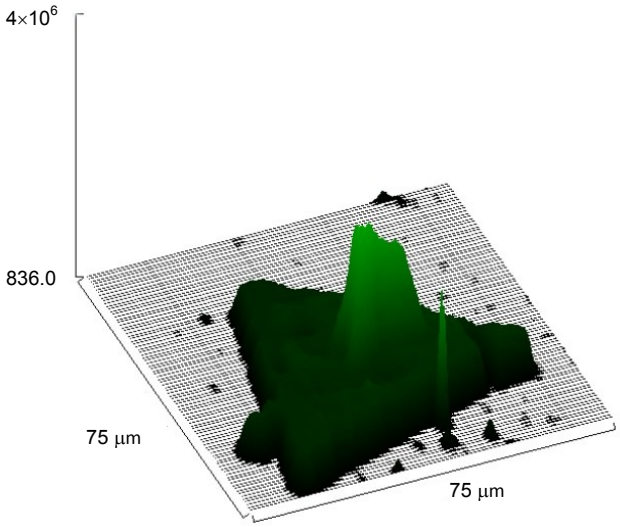

Fig. S1 | Integration of the experimentally detected PSHG intensity, for $\varphi \in [0°–90°]$ with step 1°, presented in the form of a surface plot.