Electronic Supplementary Material (ESI) for Nanoscale.

Electronic Supplementary Information: Photocarrier Dynamics in Monolayer Phosphorene and Bulk Black Phosphorus

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Figure S1(a) shows microscope images of some of the exfoliated few-layer black phosphorene samples. Their green channel contrast were analysize, which is defined as (C_f - C_s) / C_s, where C_f and C_s are the counts of the green channel of the camera from the flake and from the substrate, respectively. The obtained contrasts from these flakes show a clear step-like feature, with a step size of about 2.8 %, as shown in Figure S1(b). The linear fit (red line) shows the excellent agreement with the expected linear relation. The assigned layer numbers (2 - 7) are labeled in the corresponding panels of (a). The error bars in (b) reflects the range of values obtained from different flakes of the same layer number. Furthermore, no contrast values between these steps were observed.

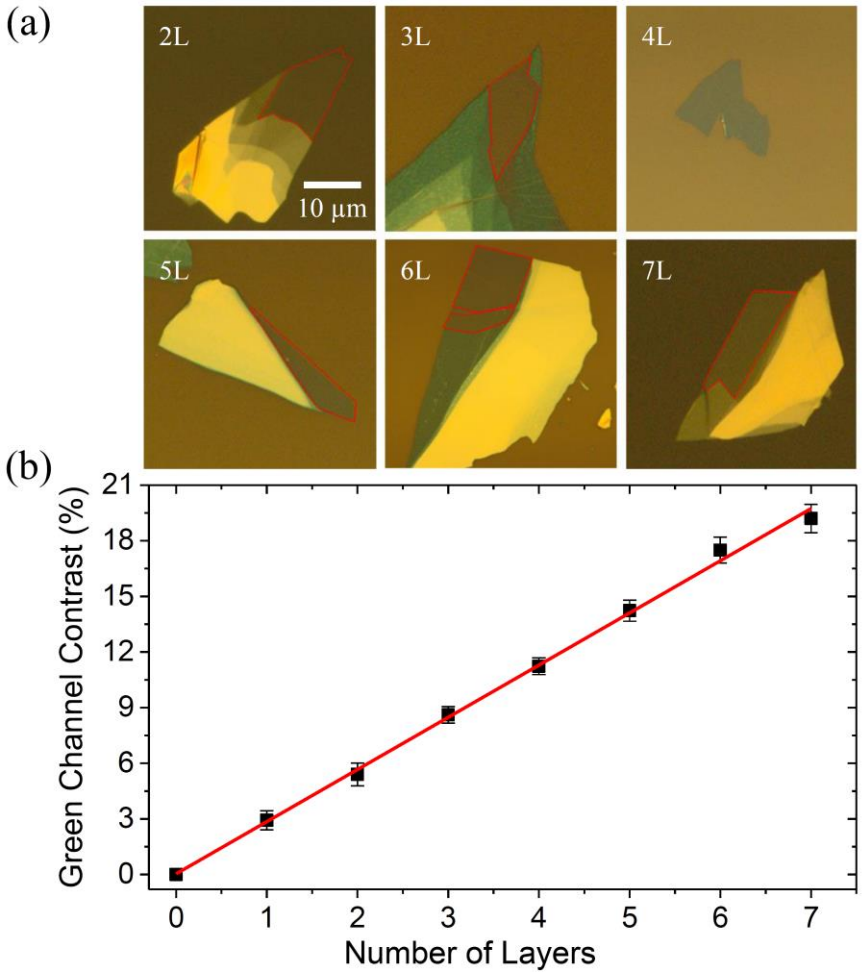

Figure S1: (a) Optical microscope images of BP flakes produced by mechanical exfoliation. (b) Green channel contrasts of the flakes as a function of the nominal layer numbers. The red line shows the expected linear relation assuming a 2.8 \% contrast for a monolayer.