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High efficiency graded band gap perovskite solar cells ONUR ERGEN, SALLY DEMAIO-TURNER, THANG THOAN PHAM, MARK TIAN ZHI TAN, JONGMIN YUK, ALEX ZETTL, University of California at Berkeley — We report high efficiency graded band gap perovskite solar cells with very large current output and high power conversion efficiencies (PCE) by using simultaneously mixed halides (CH_3NH_3SnI3 and $CH_3NH_3PbI_{3-x}Br_x$) perovskite absorber layers. An analysis of the experimental data yields a high fill factor (FF) of ˜75% and high short circuit current density (J_{sc}) of up to 46.2 mA/cm^2. These devices provide the highest current output aiming above 20% PCE.

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