ABSTRACT

Various embodiments may provide a photodetector. The photodetector may include a first layer of a first material having a first crystal orientation. The photodetector may also include a second layer of the first material having a second crystal orientation different from the first material of the first layer. The photodetector may further include a third layer of a second material between the first layer and the second layer. A bandgap of the second material may be larger than a bandgap of the first material. The first crystal orientation and the second crystal orientation may be non-perpendicular and non-parallel to each other.

FIG. 1