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Fluorescent SiC is a novel materials system which may be a new platform for visible and infrared emitting applications. Although SiC is an indirect bandgap semiconductor, the donor acceptor pair emissions involving deep acceptors could become efficient if the acceptor envelope function are sufficiently localized. Nitrogen and boron co-doped SiC exhibits a high efficient donor acceptor pair emission at room temperature. Such donor acceptor pair emission exhibits a broad emission band in the wavelength ranging from visible to infrared region depending on the SiC polytypes. In 6H-SiC the emission appears in the visible range from 500 to 700 nm with a peak at 580 nm, appearing as a warm white color, while 4H yields a peak in the green region from 450 to 650 nm with a peak at 520 nm. The 3C-SiC polytype has a lower bandgap than its hexagonal counterparts which results in an emission in the infrared region from 700 to 900 nm with a peak at 830 nm. Further on, the boron is a deep level and replacing the boron with the aluminum, being a shallow acceptor, would open up further emissions in the visible and infrared regions that would allow tuning of emission for selected purposes. The combination of the polytypes covers a broad range of emission in the visible and infrared region, and the fluorescent SiC can act as a base material for SiC based light emitting materials having benefits of the SiC properties such as chemical stability, high thermal conduction and matching with nitride growth for LED fabrication. In addition, the cubic silicon carbide offers a potential solar cell material. Boron doped cubic SiC fits as a suitable concept for impurity (intermediate bandgap) photovoltaics with an efficiency up to 48-60% depending on the theoretical model. The requirement is a high material quality to have efficient optoelectronic transistions. We have shown that 3C-SiC could be grown in a very high quality. Carrier lifetime is one of the key parameters governing the electronic and optoelectronic devices. Very recently we have synthesized high quality 3C-SiC by a PVT process on 6H-SiC and with a very high growth rate of 1 mm per hour. The result is a carrier lifetime of 8.2 μs, and surprisingly this is even higher than in 4H-SiC when comparing carrier lifetimes in as-grown materials. Such material paves the way to explore cubic SiC for photovoltaics.