

Luminescent materials for LEDs

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To make true white emitting LEDs, one can choose several solutions. One can e.g. combine blue and yellow, but one can also choose blue, green and red. The recent patent literature usually shows the combination of a blue LED and the yellow emitting material $\text{Y}_3\text{Al}_5\text{O}_{12}:\text{Ce}^{3+}$ for the former option, and for the latter option usually a blue LED, a green emitting Eu^{2+} based thiogallate and a red emitting Eu^{2+} based strontiumsulfide are chosen.

This paper will give an overview of a number of phosphors that are under discussion in the current scientific and patent literature for application in LEDs. The physical, chemical and spectroscopical properties, which these phosphors have to fulfill, will be discussed and some examples will be given.

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