

ABSTRACT**SILICON SOLAR CELLS COMPRISING LANTHANIDES FOR MODIFYING THE SPECTRUM AND METHOD FOR THE PRODUCTION THEREOF**

The aim of the invention is to improve the energy yield efficiency of solar cells. According to the invention, the silicon material is doped with one or more different lanthanides such that said material penetrates into a layer approximately 60nm deep. Photons, whose energy is at least double that of the 1.2 eV silicon material band gap, are thus converted into at least two photons having energy in the region of the silicon band gap, by excitation and recombination of the unpaired 4f electrons of the lanthanides. As a result, additional photons having advantageous energy close to the silicon band gap are provided for electron-hole pair formation.