

Photoluminescence of manganese- and copper-doped CdS nanowires

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Arrays of CdS:Mn²⁺:Cu⁺ micro- and nanowires grown in polycarbonate ion-track templates exhibit photoluminescence in the spectral domain ranging from 500 to 800 nm at room temperature. A comparison with similar CdS and CdS:Mn²⁺ wire arrays is presented. The individual contributions to the emission spectra of Cu⁺ and Mn²⁺ ions in the US matrix are explained using their energy level schemes. Also SEM, EDX and EPR data are given for these wires.