

## **PHOTOLUMINESCENCE AND CONDUCTIVITY STUDIES OF ZNO-VYCOR**

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We report on studies of the low-temperature photoluminescence of ZnO nanoparticle and nanowires embedded in porous glass (vycor). The photoluminescence (PL) and photoluminescence excitation (PLE) of glass substrate, not annealed and annealed ZnO–SiO<sub>2</sub> monoliths were investigated. The influence of the molar ratio of ZnO:SiO<sub>2</sub>, the annealing temperature and annealing time on the photoluminescence spectra was demonstrated.

We observe a decrease of the deep-level emission and an increase of the near band-edge emission after the embedding process. The near-band-edge emission of the embedded ZnO nanowire is dominated by a surface exciton band. A positive photoconductivity effect is observed for the oxygen/air annealed samples and a negative effect for nitrogen annealed samples is explained.