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Porous II-VI vs. porous III-V semiconductors

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Abstract

In this work a morphological comparison of porous structures obtained by means of electrochemical etching in II-VI (ZnSe, CdSe) and III-V (InP, GaAs, GaP) semiconductors is presented. It is shown that in III-V semiconductors current-line and crystallographically oriented pores can be grown, whereas in II-VI semiconductors only current line oriented pores can form. The lack of crystallographically oriented pores in II-VI is a possible reason why no long range order for the current line oriented pores was observed in these materials up to now.