# Erratum: ''Strain and relaxation effects in InAsP/InP multiple quantum well optical modulator devices grown by metal-organic vapor phase epitaxy'' [J. Appl. Phys. 81, 1905 (1997)]


R. Y.-F. Yip, A. Aït-Ouali, A. Bensaada, P. Desjardins, M. Beaudoin, L. Isnard, J. L. Brebner, J. F. Currie, and R. A. Masut

*Groupe de recherche en physique et technologie des couches minces (GCM), Département de génie physique, École Polytechnique de Montréal, C.P. 6079, succ. ''Centre-Ville,'' Montréal QC, H3C 3A7 Canada*



[S0021-8979(97)08124-3]


Please note the following corrections.

(1) The incorrect version of Table I was printed on page 1906 [(J. Appl. Phys. **81**, 1905 (1997)]. The critical limits ($hc$) quoted in the text are correct while the ones described in the table and table caption ($hc_1$ and $hc_2$) should be ignored. The correct table and caption should read as follows.

(2) There is a typographical error in Eqs. (A4) and (A5). In these equations, $L_0$ should be replaced by $L_0/2$.

TABLE I. Sample listing and structural parameters obtained from high-resolution (115+/115−) and (004) XRD scans. Using mismatches measured with respect to InP, the fully relaxed, free-standing lattice parameter of the InAsP quantum well sections was deduced from a knowledge of the lattice parameters for the strain-distorted unit cell. This was subsequently used to compute the As composition of the wells, biaxial well strain, and relaxation ($R$). $h/hc$ is the ratio of the multi-layer structure thickness to the Matthews–Blakeslee critical limit for a layer of the average composition.

| Sample | Multi-layer structure | | Critical limit $h/hc$ | In-plane mismatch | | Biaxial strain in wells | | $R$ | |
|---|---|---|---|---|---|---|---|---|---|
| | Multi-quantum well structure | Cap layer | | [110] | [1$\bar{1}$0] | [110] | [1$\bar{1}$0] | [110] | [1$\bar{1}$0] |
| mod07 | 500 nm InP | 300 nm | – | – | – | – | – | – | – |
| mod03 | 25×(9.4 nm $InAs_{0.044}P_{0.956}$/9.4 nm InP) | 280 nm | 1.9 | <0.001% | | −0.14% | | <1% | |
| mod05 | 25×(9.8 nm $InAs_{0.100}P_{0.900}$/9.8 nm InP) | 290 nm | 5.2 | <0.001% | | −0.31% | | <1% | |
| mod06 | 25×(10.3 nm $InAs_{0.156}P_{0.844}$/10.3 nm InP) | 310 nm | 9.3 | 0.012% | 0.003% | −0.49% | | 5% | 1% |
| mod04 | 25×(9.8 nm $InAs_{0.264}P_{0.736}$/9.8 nm InP) | 290 nm | 17 | 0.079% | 0.034% | −0.77% | −0.81% | 20% | 9% |
| mod02 | 50×(11.9 nm $InAs_{0.135}P_{0.865}$/11.9 nm InP) | 1550 nm | 18 | 0.050% | 0.024% | −0.38% | −0.41% | 23% | 11% |



0021-8979/97/82(12)/6372/1/$10.00


© 1997 American Institute of Physics

Downloaded 12 Oct 2007 to 132.204.76.245. Redistribution subject to AIP license or copyright, see http://jap.aip.org/jap/copyright.jsp