Influence of Ga Concentration on the Ordering Process of $Ga_xIn_{1-x}P$ Grown on GaAs

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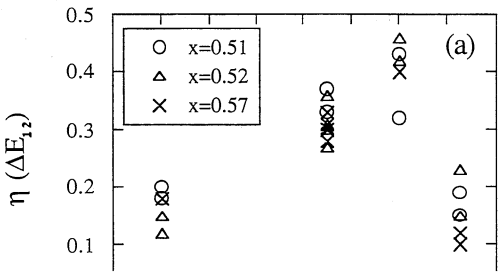
direct band-gap and of the SO splitting, respectively. We

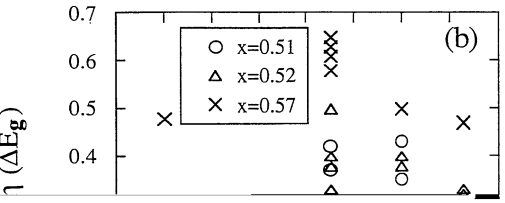
temperature using the Ar^+ 5145 Å line with 15 mW power as an exciting source and analyzed using Dilor's micro-Raman spectrograph with an accuracy of $\cong 1.0$ meV on the value of ΔE_{12}. The concentration x was determined from Raman scattering with an accuracy $\Delta x \cong 1\%$.



4. Results and Conclusion

Figure (3) displays the LRO parameter η vs growth temperature where η was extracted by fitting the measured

eq. (4) [Fig. 3(b)]. We observe the usual[2] nonmonotonic behavior of η vs T_g in both cases. Composition variations have a small effect on ΔE_{12} and ΔE_g, as predicted by the theory of Wei *et al.*[4,5] (Fig. 1 and eq. (4)).



The symbols of Fig. 2 gives the experimental dependence of $\Delta E_{12}(x, \eta)$ on $|\Delta E_g(\eta)|$ for $x=0.51$ (part a) $x=0.52$ (part b) and $x=0.57$ (part c). In all cases, the solid curve gives the theoretical prediction. We see a

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