



Pressure dependence of optical transitions in ordered GaP/InP superlattices

5`VYfrc: fUbWgWYHj`UbX`5`YI`Ni`b[`Yf`

7`JhJcb: `5dd`jYX`D\ng]Mj`@YHfYfg`65z&-`-\$`f%`-(`L/Xc].`%\$`%\$`*`#`%`%`&`(`,`*`

J`Jk`cb`]bY.`\`hd.`#Xl`"Xc]"cf[`#`\$`"%"`\$`*`#`%`%`&`(`,`*`

J`Jk`HUV`Y`cZ7`cbYbfg.`\`hd.`#gV]Ujcb"U]d"cf[`#`L`bY`bH]d#`#`ci`fbU`#Ud`#`#`&`3j`Yf1dXZ\`tj`

Di`V]g\`YX`Vmi`h`Y`5`D`Di`V]g\`]b[`

Articles you may be interested in

Dc`Uf]nUjcb`Z]Y`Xg`UbX`VUbX`cZgYhg`]b;`U`b`D`#`U5g`UbX`cfXYfYX#]gcfXYfYX;`U`b`D`gi`dYfUj]Wg`

5dd""D\ng""@YHf"68z`&`(`&`f%`-`*`L`/%`\$`"%"`\$`*`#`%`%`&`(`*`'`'`

9`YVfcb]Mgfi`Vh`fy`cZf]`U5gt`a`#f]`Y&L`b`f\$`\$`%`L`gi`dYfUj]Wg`k`]h`%fa`z`b`&`\$`

5dd""D\ng""@YHf"68z`%`(`&`f%`-`*`L`/%`\$`"%"`\$`*`#`%`%`&`(`*`'`'`

7`ca`a`Ybhc`b`Bcfa`U`]bW]X`YbW`gYV`L`bX`Ufa`cb]M[`YbYfUjcb`]b`@`j`U`Ym5`GV#`UGV#`U%`I`5`I`GV#5`GV`gYddYX`ei`Ubh`a`k`Y`g`Gdd""D\ng""@YHf`*)`z`&`\$`(`,`f%`-`(`L`Q`

5dd""D\ng""@YHf"68z`%`+&`f%`-`*`L`/%`\$`"%"`\$`*`#`%`%`&`(`%`&`(`

H\YcfYh]W`gh`XmcZfcc`a`fYa`dYfUj`fy`cdh]W`[`U]b`]b;`UB`gfh]bYX`ei`Ubh`a`k`Y`g`

5dd""D\ng""@YHf"68z`&-`*`f%`-`*`L`/%`\$`"%"`\$`*`#`%`%`&`(`\$`*`(`

Pressure dependence of optical transitions in ordered GaP/InP superlattices

of freedom $t_{s,a}$

mixing with off-G states is rather weak, the pressure coefficient is very close to the binary average.

(ii) The pressure coefficients given in Table I correspond to *perfect* long-range order (LRO) parameter $h=1$, where the admixture with off-G states is maximal. The pressure coefficients for lower degrees of order $0 < h < 1$ can be derived from:¹⁰

$$a(h) = a(0) + h^2(a(1) - a(0)). \quad (4)$$

Approximating the pressure coefficient $a(0)$ of the random alloy with the average of the binaries (Table II), we obtain $a_G(0) = 8.2$ meV/kbar and a_X