



Pressure dependence of optical transitions in ordered GaP/InP superlattices

5`VYfrc: fUbwWgWYHj`Ubx`5`YI`Ni`b[`Yf`

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

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

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

Di`V]g\`YX`VmiH`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`g`i`dYfUjWg`

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

9`YVfcb]Mgfi`Vh`fY`cZfj`U5gt`a`#fj`Y&L`b`f\$`\$`%`L`gi`dYfUjWg`k`]h`%fa`z`b`&`\$`

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

7`ca`a`Ybhc`b`i`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`gHfU]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 $a_0 = 8.2$ meV/kbar and a_x