

## PROGRESS REPORT, 01.09.2022

### A) Comparison of Obtained Results

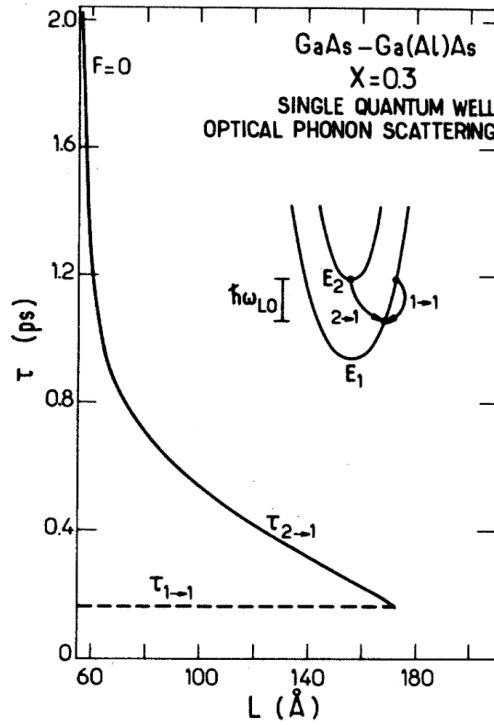


Figure 1: T vs L graph for GaAs-Al<sub>0.3</sub>Ga<sub>0.7</sub>As single quantum well from [1].

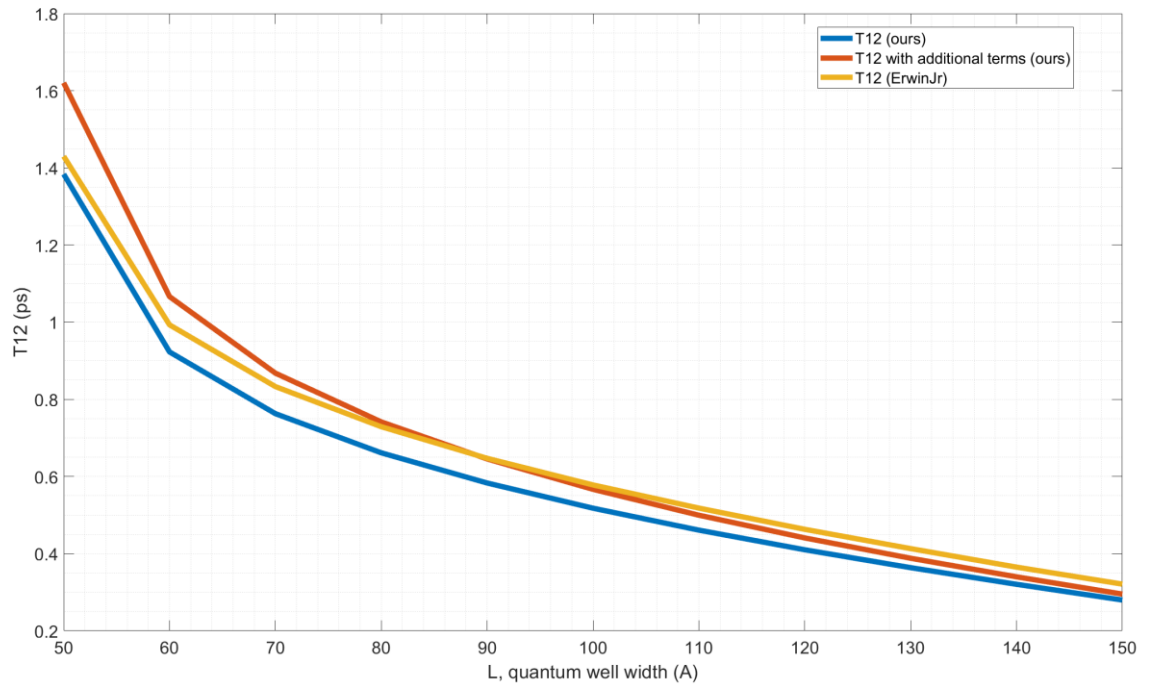


Figure 2: T vs L graph for GaAs-Al<sub>0.3</sub>Ga<sub>0.7</sub>As single quantum well from simulations.

Table 1: The comparison of the simulated results.

<b>L (Å)</b>	<b>T (ps)</b>		
	<b>T12 (ours)</b>	<b>T12 with additional terms (ours)</b>	<b>T12 (ErwinJr)</b>
50	1,384	1,621	
60	0,923	1,066	0,993
70	0,763	0,868	0,833
80	0,661	0,741	0,729
90	0,583	0,645	0,647
100	0,518	0,567	0,578
110	0,461	0,500	0,518
120	0,410	0,441	0,463
130	0,364	0,388	0,413
140	0,321	0,340	0,365
150	0,280	0,295	0,321

## **B) References**

[1]R. Ferreira and G. Bastard, "Evaluation of some scattering times for electrons in unbiased and biased single- and multiple-quantum-well structures," Physical Review B, vol. 40, no. 2. American Physical Society (APS), pp. 1074–1086, Jul. 15, 1989. doi: 10.1103/physrevb.40.1074.