Excited-state relaxation in PbSe quantum dots

Joonhee M. An, Marco Califano, Alberto Franceschetti, and Alex Zunger

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E ci ed L a e ela a il i PbSe l a l dl

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2046 211 260 24 $P \rightarrow S$ $P \rightarrow S$. *2008 American Institute of Physics.*

[| 10.1063/1.2 01022]

INTRODUCTION

[1] Δ [2] Δ [. 1( )]. [. 1( )], Δ *radiative* [3] Δ [4] [5,6]

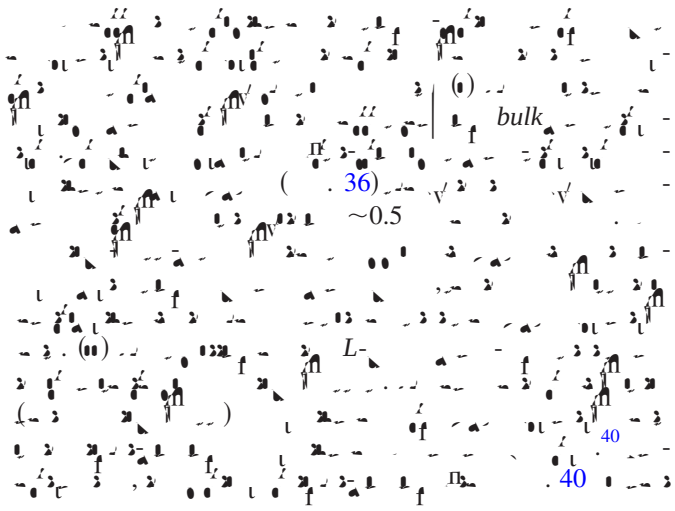
( ) (10) [*S* *P* 1( )] 200 400

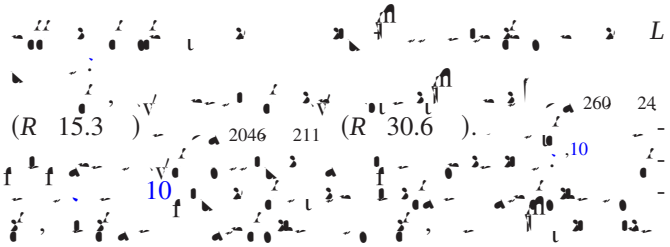
[1] [4,5] [. 1( )].

(L,

R,

$$V(\mathbf{r}) \quad \sum_{\alpha} \sum_{\mathbf{R}} v_{\alpha}(|\mathbf{r} \quad \mathbf{R} \quad \mathbf{d}_{\alpha}|). \tag{4}$$





e_p e_s

(≥130 , ~ $\hbar\omega$)

E

τ_A

SUMMARY

$P \rightarrow S$ 3,12,2

1 20 35

,10

$P \rightarrow S$

$P \rightarrow S$