B 74, 205422 (2006)

Excitonic exchange effects on the radiative decay time of monoexcitons and biexcitons in quantum dots

80401, [illegible]

30 2006; 17 2006)

[illegible]

DOI: 10.1103/ B.74.205422

PACS: 73.21.[illegible], 71.35.[illegible], 78.60.[illegible]

I. INTRODUCTION: RELATION BETWEEN APPARENT AND MICROSCOPIC CARRIER DECAY

[illegible]

II. RATE EQUATIONS FOR THE RADIATIVE DECAY OF THE MONOEXCITON

[illegible]

$$/ = (R + R + R + R_{0}) + R + R$$

$$+ R ,$$

$$/ = (R_{14} + R_{13} + R_{12} + R_{10}) + R + R$$

$$+ R ,$$

. F F . 1( )

R

F . 1( )

$_{0}( )$

1 1 0 0

0 0 0 0

:

$$/ = (R + R + R + R_{0}) + R + R$$

$$+ R ,$$

$$/ = (R + R + R + R_{0}) + R + R$$

$$+ R ,$$

E . (6)

$I(\,) = R_{B0} \quad {}_{B}(\,) + R_{D0} \quad {}_{D}(\,)$,

( )

III. RATE EQUATION FOR THE RADIATIVE DECAY OF THE BIEXCITON

T … *B-D*

$$F = \frac{1}{2}\left(\frac{R_{B0} \quad \square_S}{\square_F \quad \square_S}\right), \tag{12}$$

$$S = \quad \frac{1}{2}\left(\frac{R_{B0} \quad \square_F}{\square_F \quad \square_S}\right). \tag{13}$$

I [illegible] $I(\,)$ [illegible] : [illegible] $_0/$ [E . (6)], [illegible] $R_{D0}=0$ [illegible] $I(\,)=R_{B0}\ _B(\,)$. [illegible] $I(\,)$ [illegible] ([illegible]) [illegible].

I

D [9] F [13]

$\rho_R(0) \simeq R_{B0}^{-1} = 1.1$ I $_{0.6}$G $_{0.4}$A /G A

B [14]

1.55

1 B k [15]

[16] I C