ARTICLE

Uncovering and tailoring hidden Rashba spin–orbit splitting in centrosymmetric crystals

Linding Yuan [1,2], Qihang Liu[3,4], Xiuwen Zhang[5], Jun-Wei Luo[1,2,6], Shu-Shen Li[1,2,6] & Alex Zunger[3]

, [20],
6 a 6 -1 a -2
(“ -1 -2”) fi - a a-
-2 a a a fi
a a a 6 .
A a -2 Ba $_2$[10], a fi6 -
a ( ) 2 a
- a a a a a a a
a a , a 4/ . C 6 a Ba $_2$
a [22,23] a a a a
a a a a + a a (= 3 , $J = 0.95$
) a a - a a - a a
a 0.7 μ_B (0.6 μ_B a
a) a - a a
a a - a 43 $( )^{-1}$
a 28 $( )^{-1}$ a . +
a a a a Ba $_2$ a a
a a a a a - a a
a -6a 2 3 . 6 fi

a -6a + a a
a (6 a) 6a [22,23]
a a a a a , 6
a a - a a Ba $_2$ a6 a
a a . a a -
a a a a - a a
a A a (A) a a a
a 1%[10,22]. - a ,
6 a - 6 a

β (a , β- a a a).

$\delta E_{AB}(k)$ a a -2

a fi a a a a a α (2) = 0.24 . a

fi a / a -1 /

-2 δ $_{AB}$(k) α- a β- a a a ,

6 , a . 3a

a a a a α $= \delta E_{AB}(k -)/2(k -)$,

a a E : α α- a a a

a a β- a a a a a a a

. 2 $D\left(\downarrow_{\alpha/\beta}(\mathrm{A}, \mathrm{k}\text{-}_{-\bar{\Gamma}})\right) = D\left(\downarrow_{\alpha/\beta}(\mathrm{B}, \mathrm{k}\text{-}_{-\bar{\Gamma}})\right) =$ 2% A B . A 43% , B 57% α $D\left(\uparrow_{\alpha/\beta}(\mathrm{A}, \mathrm{k}\text{-}_{-\bar{\Gamma}})\right) = D\left(\uparrow_{\alpha/\beta}(\mathrm{B}, \mathrm{k}\text{-}_{-\bar{\Gamma}})\right)$ 14% $-\bar{\Gamma}$ α β. α β, α . (3).

Unification of R-1 and R-2 into a single theoretical framework. "-1 -2" (. 3a) -2 , E(r) E E ( ) E (r),

$$\mathrm{E}(\mathrm{r}) = \mathrm{E}\ (\mathrm{r}) + \mathrm{E} \quad (4)$$

, -1 -2 " " . -1 -2 -2 -1 . 1 $-\bar{\Gamma}$ α E = 0 E = 10 $^{-1}$.

(. 3a). α -2 -1 , $-\bar{\Gamma}$ -2 α (2) = 0 . , $-\bar{\Gamma}$ [25]. . 3 (. (1)) 14% > 80% E 0 50 $^{-1}$. , $D(\varphi_k)$ E > 50 $^{-1}$ ( ). . -2 $D(\varphi)$. (3). $D(\varphi_k)$ α $-\bar{\Gamma}$.

E , 25 $^{-1}$, α . 3 $D(\varphi_k)$ E , . α . 3a . (3) α . -2 -1 (. (3)), -1 -2 . -1 / -2 ,

-1 , α- [6] α- (a 2013[26] -1 2016[27,28]), 1). A . (3), , -2 Ba_2. A 111] , α- , . (3).

Design principles for increasing the strength of the R-2 effect. -2 [6] 103.84.10

a a 6 - a a
. -2 a a a
a a a a a
fi a a :

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37. a , . &