

HgTe/CdTe

J - L 0 A
a a R a E L a , G , C a 80401, A
(0 13 J 2010; 0 21 2010)

k p (r_s) H Te/CdTe.
2D (1D) r_s
H r_s , 23 ML (62.5 A)

$G A$ $G \Gamma$ fi
 $S-$ 6 $($ $F .1)$,
 $P-$ 8 $($ $1 eV)$ $H \Gamma$
 $- [2,18$
 6 $($ 300 $)$.
 H $S-P$ $H \Gamma$
 B
 $F .2$ $P-$ $($ $)$ $S-$
 fi $2D H \Gamma$ fi
 A L τ C A fi $?$
 $2D$ (001) fi $” - [9$
 $E_{\perp} k$ $1, 2, \dots \tau$ $F .2$
 fi $P-$
 $LH1$ $HH1,$
 $($ $S-$ $E1$ $P-$ $LH1)$. τ
 $F .2$ fi
 $S-$ $LH1$ $P-$ $HH1,$
 $(E1)$. τ $(LH1)$ $P-$
 $H \Gamma$
 $LH, HH,$ E $2D$
 $LH1$ $HH1$
 $LH1$ $E1.$

$F a$
 $\perp H Te \neq CdTe$

$BM a$ CBM

I , fi
 F .1() LH1(CB) HH1(B) -[
 , , ± H Te
 HH1 HH2.
 F 3() 3() LH1
 HH1 H T
 . -[F .1() ± H Te
 fi H T : ()
 S- E1 , LH1/
 P- E1 ,
 HH1 ; ()
 () P- LH1 S- LH1
 ; , ()
 P- HH1 .T (LH HH) 2D
 -[7

S^H " - [3 - [μ_0 (0.5-1 eV)
 $F . 4() . \tau$, μ_0
 H Te/CdTe - 1,2,3,24 (-
 μ_0
 M H D - 1,3,24 ,
 μ_0 H - 1)
 μ_0 $I_{1\perp}$ μ_0 $I_{2\perp}$ LH
 μ_0 μ_0 HH1
 μ_0 $E1$ - 1,2,8,25 . τ
 μ_0 -
 μ_0 (1D μ_0 τ S μ_0) .
 μ_0 μ_0 2D
 H Te/CdTe - μ_0 . 4() ;
 μ_0 < μ_0 - μ_0 . 4() ; >
 μ_0 μ_0 : B_2Se_3 fi ($F . 2()$ μ_0
 μ_0 2(0) . - [3) . τ μ_0
 μ_0 μ_0 3D (τ
 H τ μ_0 D_3 B_2Se_3)
 μ_0 μ_0 3D
 μ_0 μ_0 2D μ_0
 μ_0 . τ μ_0
 μ_0 μ_0 . τ μ_0
 μ_0 H τ , 23 ML (62.5 A)
 μ_0 μ_0
 63 A - 8 . I μ_0 μ_0