

... A A ...)

rr r l r x l r -

1, 1 2,3,4,5

1 710062,.)²

, B ^ 100871,.)³ B ^)

, B ^ 100871,.)⁴ B ^)

B ^ 100871,.)⁵ (B ^)

B ^ 100871,.)

A ^)⁵ B ^ 100871,.)

@

Abstract

)

(-) fl 1 2 (1/ 2 3B)

(90–110) 1/ 2 (120–140 1/ 2 3B fl) 3B

fl 3B fl 1/ 2

r 3B

Introduction

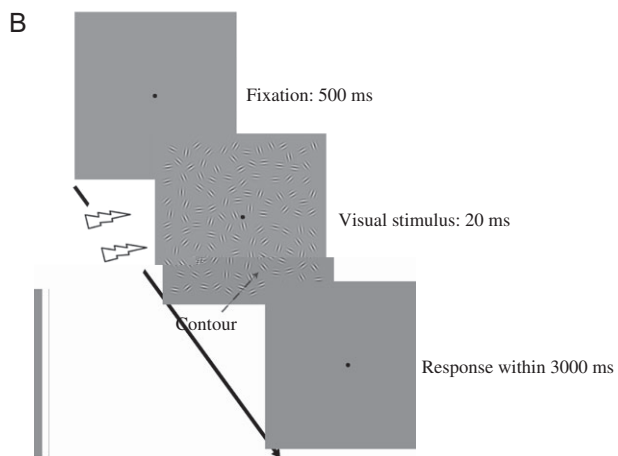
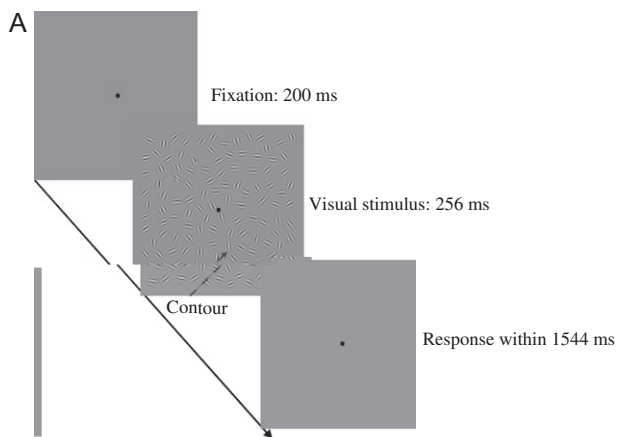
fi

(. 1993;

) . 2003)

fl

(B . 1997; . 2002).



(A) A_i

(B) A_i

fi

A

1/ 2 3B

90/110, 120/140 150/170) (A (60/80,)

1 2 A (90/110 120/140) ()

2

(1)

(2)

Data acquisition: 3

20-

(= 2000 = 30 = 152 × 152 2,

: 76 × 76, fl : 90°, = 0 ;

: 28, : 2.5 ,)

A 1-

2530 = 2.98 , = 256 × 224 2, fl A =

: 0.5 × 0.5 × 1 3, : 192,

1 :)

pRF mapping task: (1,

2, 3, 3B)

5

: 1

() , 4 fl

(100%) (. 13)

308 . A fl (10.35°, 100%)

4 , 32

8

4 36 . A

(: 2.14°)

(: 10.22°) 18 (: 1.07°)

(0°, 45°, 90°, 135°)

A 8-

12-

fi

Contour detection task:

fi

81 (4

2) ,

(8) (12)

fi

(3 , 3 , 2002) . A

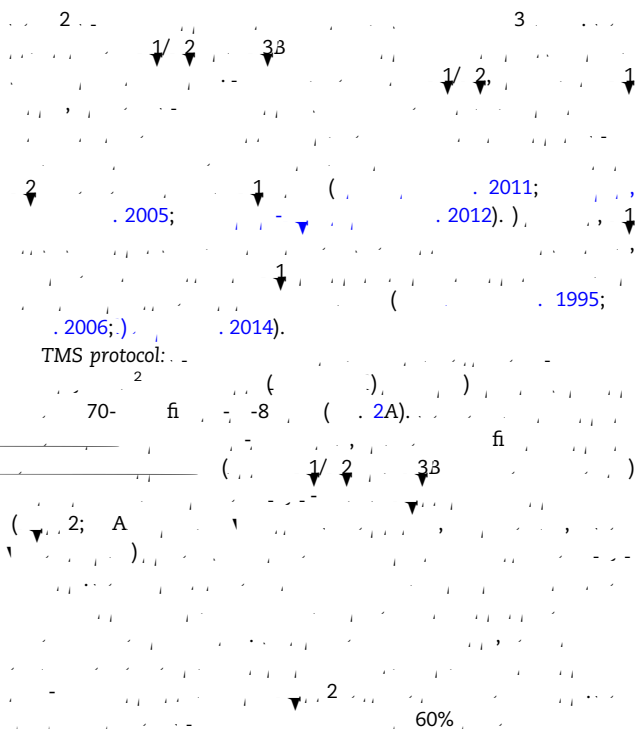
1A, 200 fi

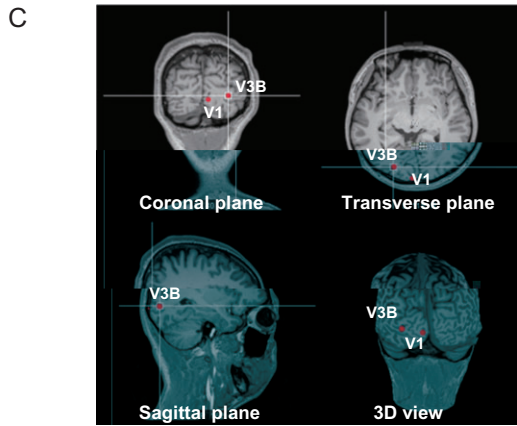
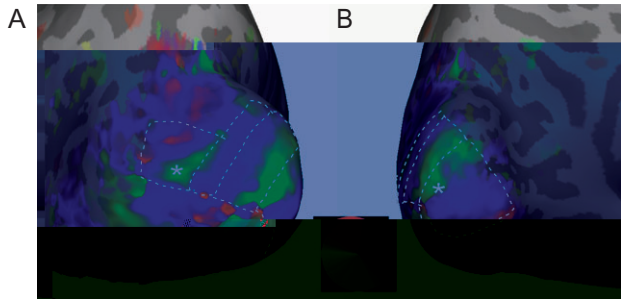
fi

256

fi

TMS Sessions





r 2. (A) (B) (C) 3B 1/ 2 3B 1/ 2 3B 1/ 2 3B (. 2005; . 2012) . A (60/80 , 90/110 , 120/140 , 150/170) . A 1/ 2 3B (. 2003; . 2005) (. 2003) . A . Contour detection task with TMS: 1/ 2 3B A 1/ 2 3B 16 A : 60/80, 90/110, 120/140, 150/170 ; 96 12

fi 1B, A 20 3 500

Data Analysis: A (. ,) (A) (A), 3

(. 2006, 2009; B . 2008; 2010; B . 2012; B . 2014) . A .

fi (- -) . A . fi (- - , - - - - - - 0)

A , A . fi t- , B ,

x p r 2

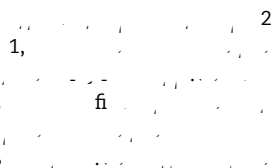
Participants (11 , 9 ; = 20-26) 8 A 1.

Stimuli and Aperture

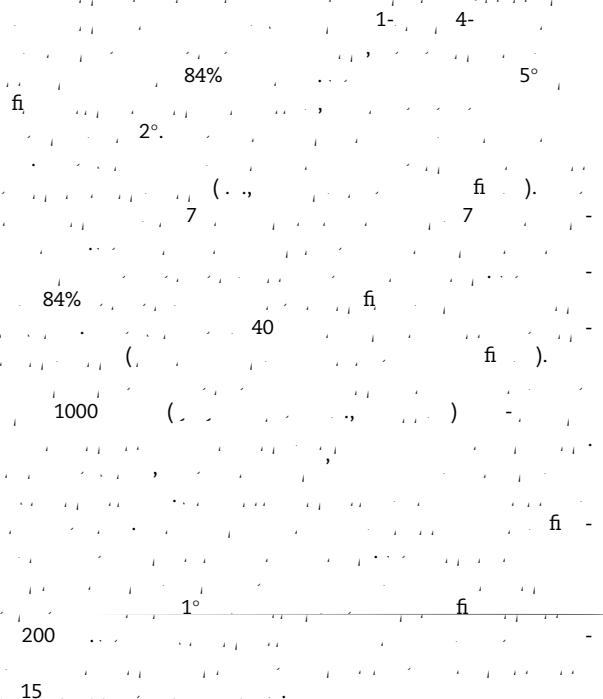
1, 2 1, 2 fi fi 2 fi

Downloaded from https://academic.oup.com/cercor/article-abstract/29/1/1/74637597 by Peking University user on 16 December 2018

Procedure



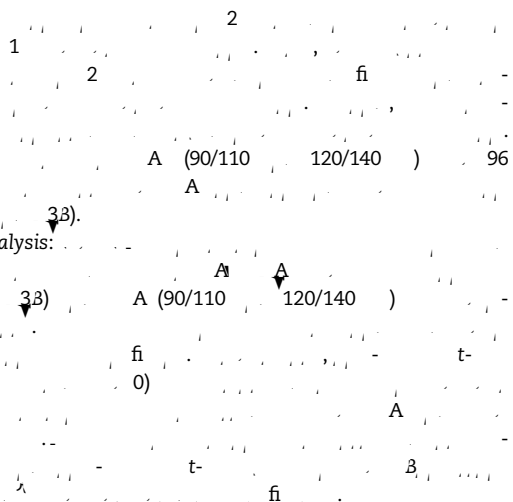
Psychophysics Session



fMRI Session



TMS Sessions

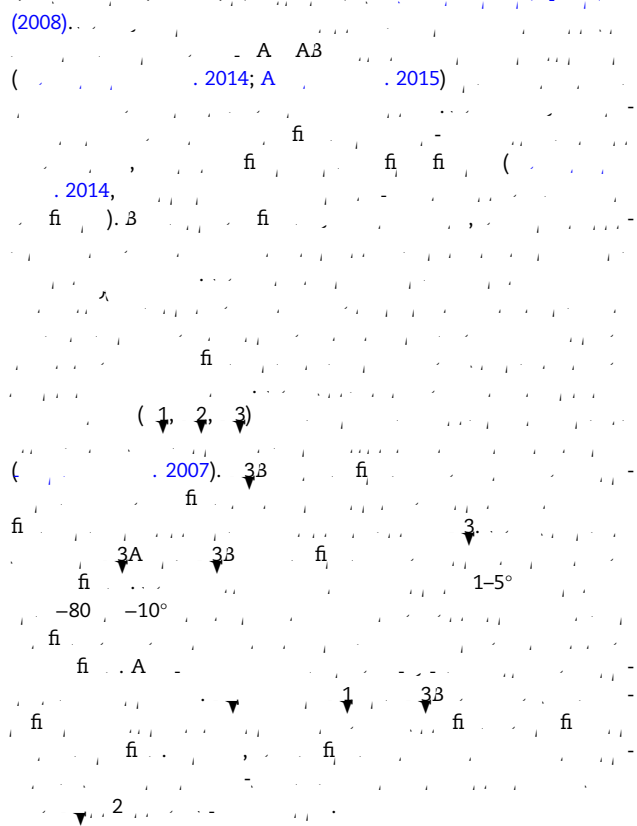


fMRI Data Analysis

Data preprocessing:

1-3 (1999; 1999). 4 (2014; A 2015). 8 (2014; A 2015)

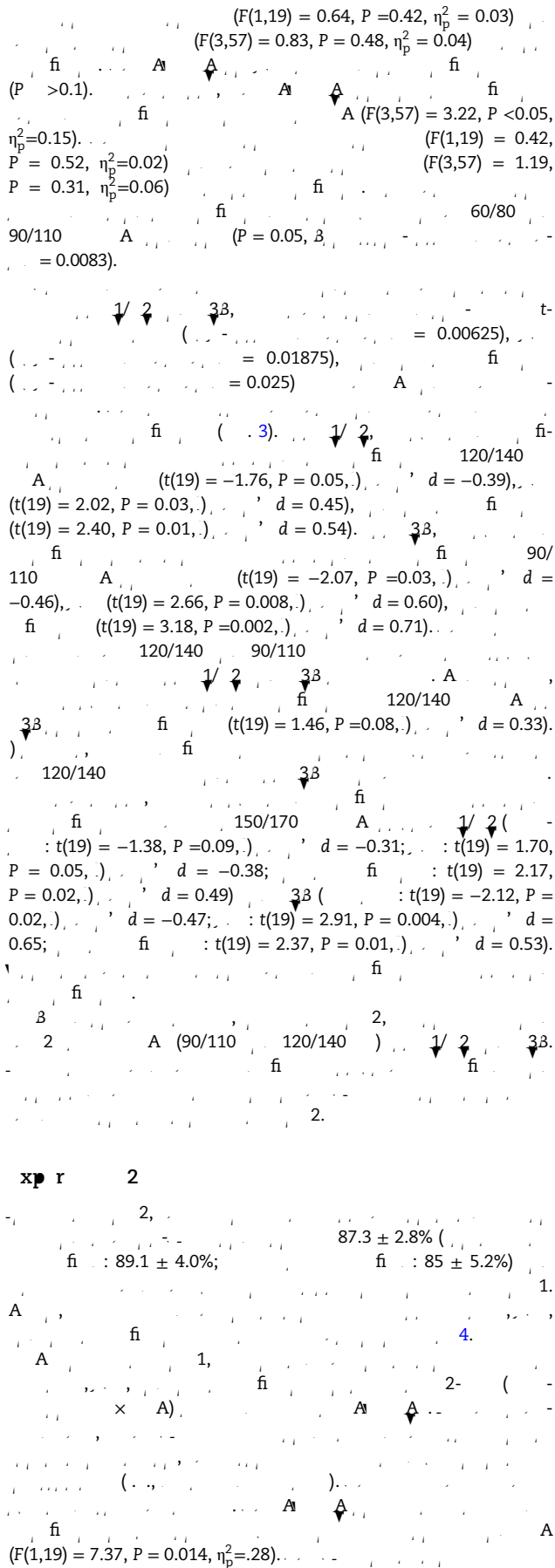
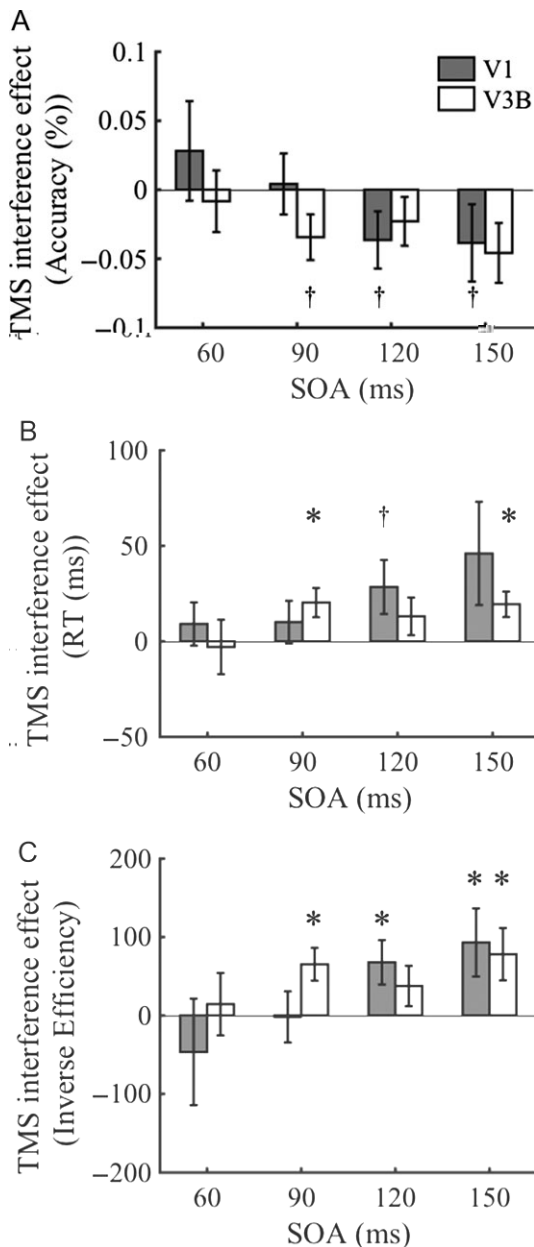
pRF and GLM analyses:

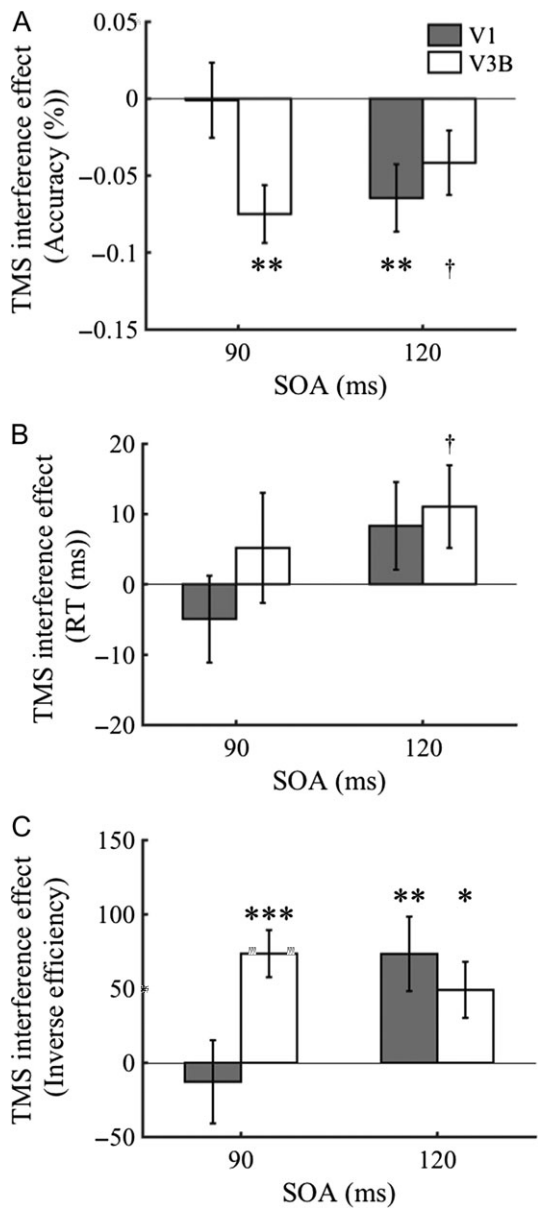


Results

xpr

1, (60/80, 90/110, 120/140, 150/170) 85.7 ± 5.8%, (3). B





($F(1,19) = 7.34, P = 0.01, \eta_p^2 = 0.28$)...
 $(F(1,19) = 2.37, P = .14, \eta_p^2 = 0.11)$ A ($F(1,19) = 3.07, P = 0.10, \eta_p^2 = 0.14$)
 $(F(1,19) = 7.67, P = 0.01, \eta_p^2 = 0.29)$...
 $(F(1,19) = 1.23, P = 0.28, \eta_p^2 = 0.06)$.
 $(t(19) = -2.95, P = 0.004, d = 0.66)$
 $(t(19) = 2.92, P = 0.004, d = 0.65)$
 $(t(19) = -3.99, P < 0.001, d = -0.89)$
 $(t(19) = 4.64, P < .001, d = 1.04)$
 $(t(19) = -1.99, P = 0.03, d = -0.45)$
 $(t(19) = -1.88, P = 0.04, d = 0.42)$
 $(t(19) = 2.60, P = 0.009, d = 0.58)$

Discussion

(1995; 2006; 2013)
 (1993)
 (2003; 2009; 2010; 2014)

(A) (B) (C)
 $(F(1,19) = 6.09, P = 0.02, \eta_p^2 = .24)$
 $(F(1,19) = 1.93, P = 0.18, \eta_p^2 = 0.09)$
 $(F(1,19) = 3.24, P = 0.09, \eta_p^2 = 0.15; P > 0.3)$
 $(***P < 0.001)$
 $(**P < 0.01)$
 $(*P < 0.05)$

Б,) , 2015. (А) ()
35(2):731-738.
Б,) 2016. А
Б 9(4):
594-600.
Б,) А,) ,) 2014.
51:46-55.
Б,) , fi Б, 1997.
17(6):
2112-2127.
Б,) 1997. 10:
433-436.
Б,) , А 2008.
А 105(14):5644-5648.
Б, Б 2002. fi
16:
801-813.
) ,) , 2014.
82(3):682-694.
А, Б, 1999.)
1949:179-194.
) Б, А 2014.
) Б, 24; 66, 67.
) 2016.
36(1):
185-192.
Б.А. 2008. fi
39:647-660.
Б, 2008. А А.
105:14298-14303.
) А,) 1993.)
fi " 33(2):173-193.
Б, А 1999.)
fi fi
9(9):195-207.
2002. 1
Б 142(1):139-150.
А,) 2013.
78(2):389-402.
А,) 2016. fi
fi
) 1-13.
) А, 2003.)
97:105-119.
А 2007.
Б 1157(1):167-176.
) 1995.

15:843-856. 1
Б 2007.
-3. 36(14):1-16.
) А, 1/ 2
2011. 31(7):2488-2492.
А, А) , А
2003. 37(2):333-346.
) , 2016.)
)) 27
(5):3042-3051.
2014. А) ,)
) ,)
26(3):621-634.
2009.
) 62
(3):441-452.
) 2008.
) 57:442-451.
) 2006.)
) 50:951-962.
) 2015.)
: А
) ,) 15:1-16.
) ,) 2017.
) А А 114(32):
8637-8642.
) ,) 2006.
) 9(6):740-742.
) ,) 2009. fi
) ,)
21(6):1204-1214.
Б, Б,)
) 2014.
88:10-21.
) 2008. 99:
2456-2469.
) Б 2010.
) 31(102() 930 - 561/ 21 59890 (1769.) ^22.2(912-139)

2006.
 A 29:203–227.
 2011.
 A 73(8):
 2542–2572.
 A,
 2012.
 ?) B 33:652–665.
 A) B,
 2014. fi
 34(7):2713–2724.
 2009.
 102(3):
 1854–1867.
 2013.
 (.)
 69:146–156.
 A, 2005. (1)
 8(2):143–144.
 2005. 15
 5/)
 (11):1736–1741.
 A, B) 2002.
 36:739–750.

B,) 2001. “ 4”
 ?
) 11:298–311.
 B) 2003.
 “ ”
 23(10):3981–3989.
) A) . 2005.
 27:95–105.
 2014. B
 5:
 264.
 A. 2003.
) (A):
 BA, B AA. 2007.
) 56(2):366–383.
 BA, 2015.)
 fi) 19(6):
 349–357.
 A ,) , A . 2013.
) : 24:63–71.
 2010.
 A
 A. 107(30):13503–13508.