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(fMRI)

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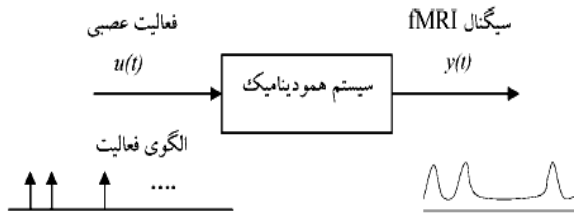
( )

(fMRI)

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(fMRI)

(fMRI)

BOLD

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[ ]

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[ ]

[ ]

[ ]

fMRI

[ ]

<sup>1</sup> Functional Magnetic Resonance Imaging

<sup>2</sup> Blood Oxygenation Level Dependant

<sup>3</sup> Steepest descent

( )

BOLD

f

q v

[ ]

$$f'_{in} = s$$

( )

fMRI

$$s' = \varepsilon U(t) - s/\tau_s - (f_{in} - 1)/\tau_f$$

( )

)

U(t)

(

BOLD

fMRI

)

) E<sub>0</sub>

(

(

)

(

$$y(t) = V_0 \times$$

$$\times \left[ 7E_0(1-q) + 2\left(1 - \frac{q}{v}\right) + (2E_0 - 0.2)(1-v) \right] \quad ( )$$

V<sub>0</sub>

(v' = dv/dt)

[ ]

$$\tau_0 v' = f_{in} - f_{out}(v) \quad ( )$$

( )

$$f_{out} = v^{1/\alpha} \quad ( )$$

q'

$$\tau_0 q' = f_{in} \frac{E(f_{in}, E_0)}{E_0} - f_{out}(v) q / v \quad ( )$$

fMRI Data Center

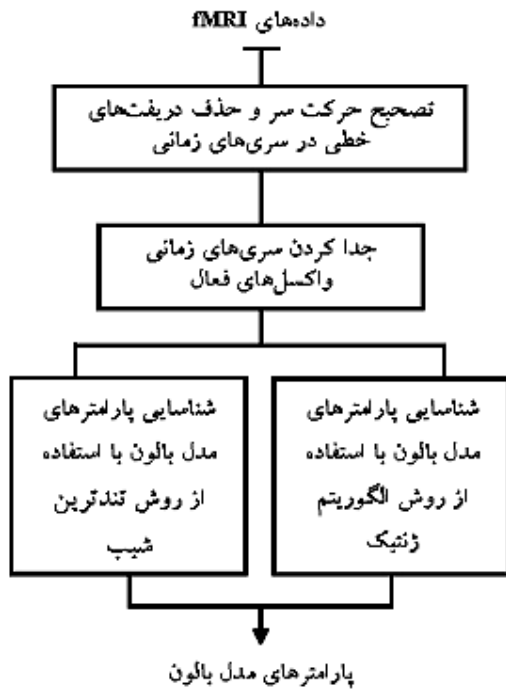
$$E(f_{in}, E_0) = 1 - (1 - E_0)^{1/f_{in}}$$

[ ]

x

<sup>4</sup> Block design

<sup>5</sup> Event-related  
<sup>6</sup> Finger tapping



× ×

/ (TR)

/  
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fMRI

fMRI

fMRI

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(TR)

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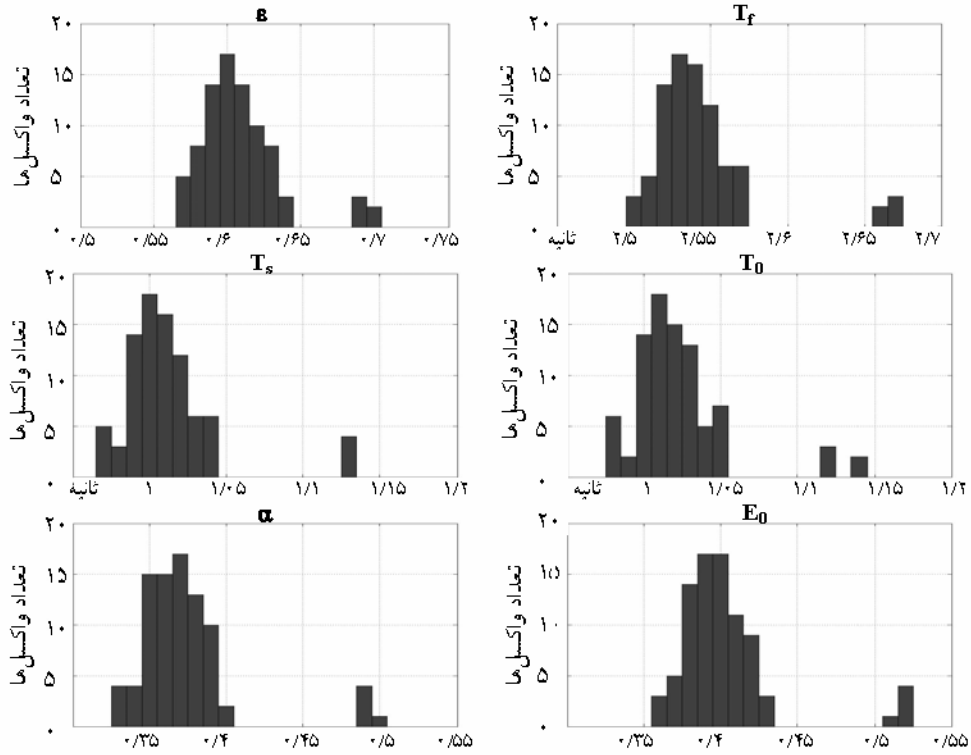
fMRI (

) fMRI

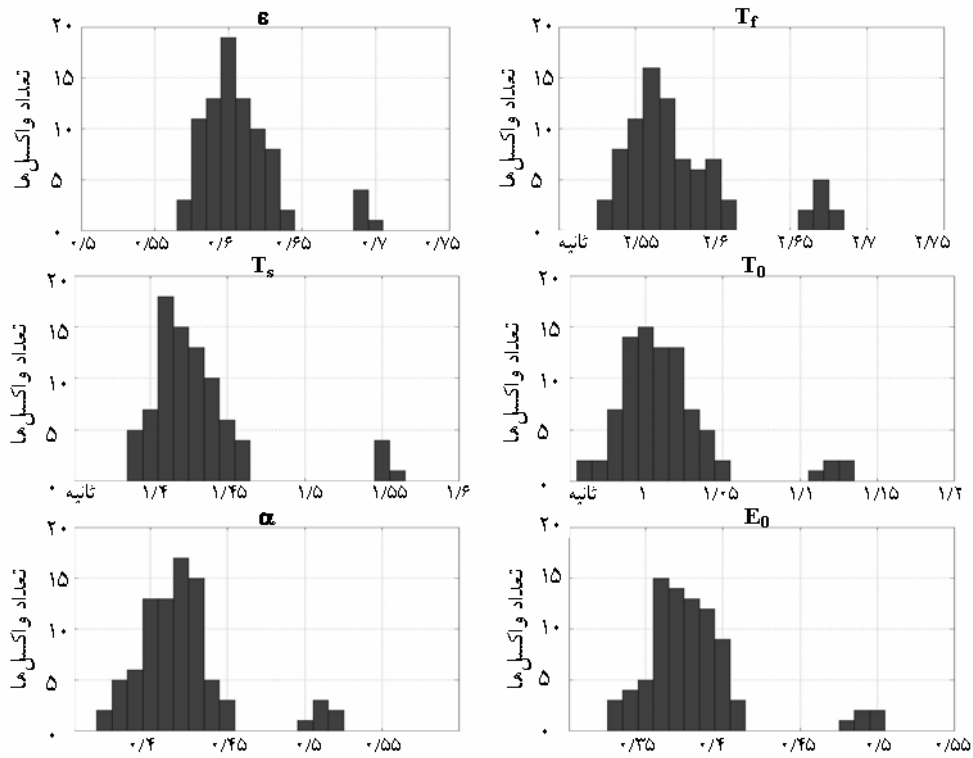
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<sup>9</sup> Mean square error



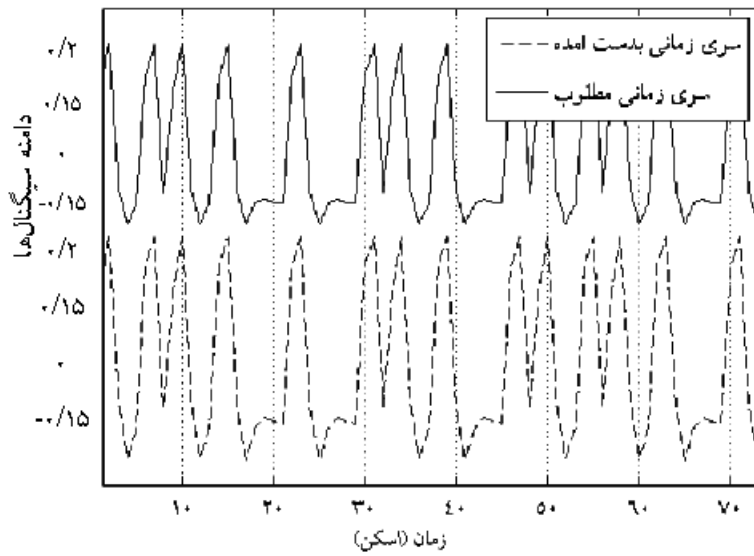
( E<sub>0</sub> ε α )



( E<sub>0</sub> ε α )

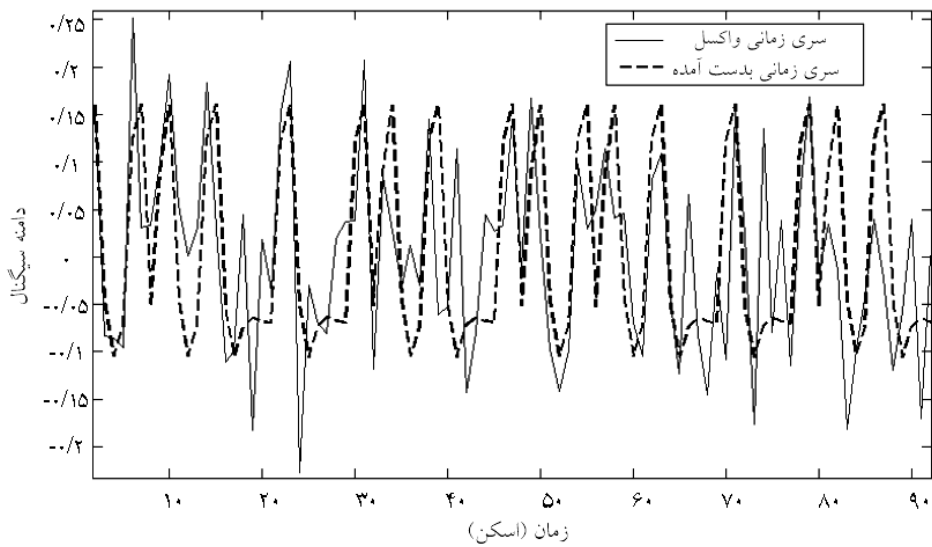
(  $\alpha$   $E_0$   $\varepsilon$  )

$E_0$	$\alpha$	$T_0$ ( )	$T_r$ ( )	$T_s$ ( )	$\varepsilon$
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/



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fMRI

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