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10^{-6}

burden spacing

Use Of Neural Networks Method In Prediction Of Fly Rock Produced By Explosion, In Pirbakran Limestone Mine

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ABSTRACT

Knowledge from amount of space produced by explosion, and effective factors on this space, can prevent from danger events of blasting. in pirbakran limestone mine that is near to the living zones, There is most of danger because of fly from top of the explosions limit .Because numbers of effective factors on fly rock produced by blasting, introducing of distinctive formula that predict amount of fly rock, is impossible. neural networks, because discovering of relation between different parameters, can use in modeling of explosions sample .type of network that use in this paper is feed forward network, and type of networks train is back propagation .by using of network with feed forward method, external data of network compare with real amounts, that error of this study is 10^{-6} .this network trains by using of 120 series data and validates and tests by 7series data.

Internal network includes of:

Usage dynamite in holes, numbers of holes, average length of holes, burden spacing amount of anfo, networks extern, and fly rock.

Corresponding, introduce blasting prop orate sample for security radius of mine.

Key words: blasting, fly rock, neural networks, feed forward, pirbakran limestone mine

(air blast)

(ground vibration)

(fly rock)

(back break)

10^{-6}

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(person)

(lunsborg)

: ()

$V_o = \frac{10 D \times 2600}{T_h \times \rho_r}$	()
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= V_o

inch = D

= T_h

$\frac{kg}{m^3}$ = ρ_r

()

[]:

$L_{\max} = 260 \times D^{\frac{2}{3}}$	()
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$T_b = 0.1 \times D^{\frac{2}{3}}$	()
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, () ()

(Crater effect)

$L_{\max} = 40 \times D$	()
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: () (), ()

= L_{\max}

= D

= T_b

, ()

()

(m)	$(\frac{m}{s})$	(inch)	$\frac{kg}{m^3}$	

()

, ()

L_{\max}

()

$x_k \quad k=1, \dots, K$

Σ

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NET n

$$NET = XW$$

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[].

target

. Feed Forward

. Back propagation

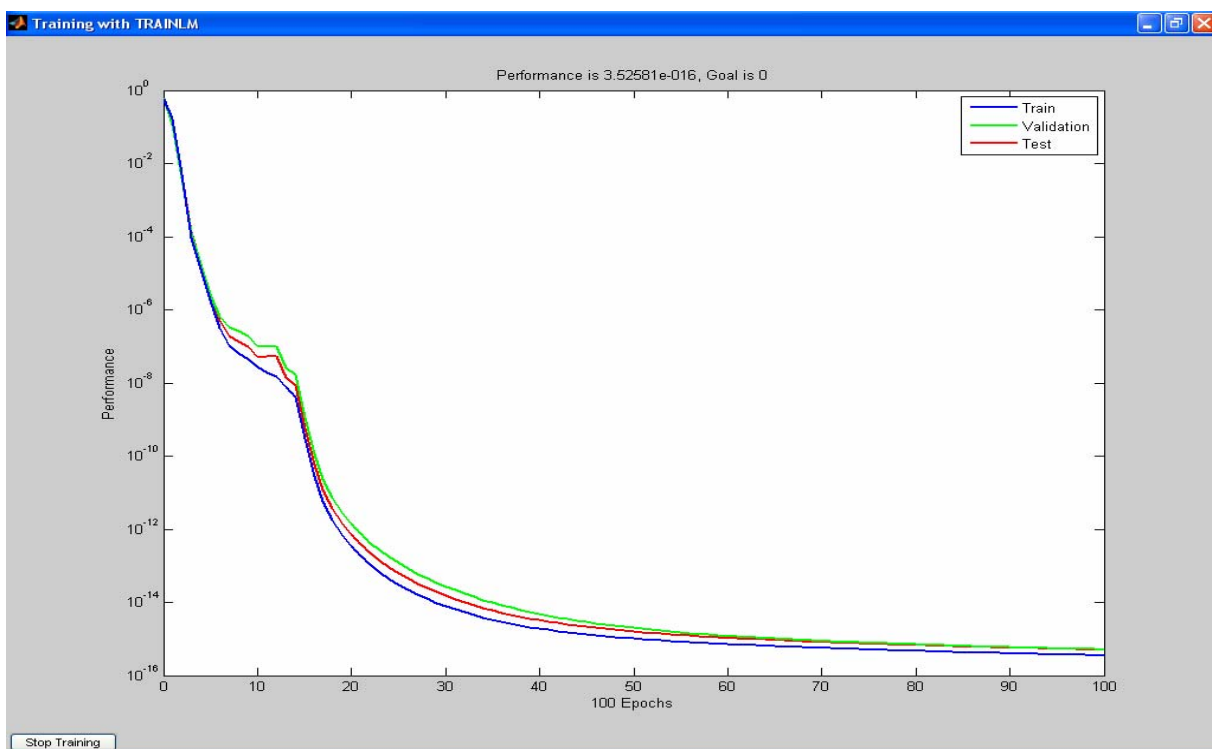
TRAILM

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(NAH)

(AVHL)

(SPACING)

(BURDEN)

(AMAN)

(AMDY)

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[]. ()

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	data1	data2	data3	data4	data5	data6	data7
B	-0,5	-1	-0,5	-0,5	-0,5	-0,5	-0,5
S	0,5	-1	0,5	0,5	0,5	0	0,5
تعداد چال	0,407407	0,148148	0,037037	-0,74074	-0,18519	0,333333	0,148148
متر از متوسط چال	-0,08609	-0,19205	-0,45695	-0,48344	-0,09934	-0,98675	-0,60265
مقدار آنفو	0,109589	-0,64384	-0,52055	-0,90411	-0,31507	-0,60274	-0,76712
مقدار دینامیت	1	0,176471	0,294118	-0,52941	0,647059	-0,17647	0,411765

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data1	data2	data3	data4	data5	data6	data7
0,06013	0,77926	-0,27023	-0,53467	-0,83784	0,99902	-0,56490

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۹۶,۰۱۳	Data 1
۱۶۰,۱۳۳۴	Data2
۶۵,۶۷۹۳	Data3
۴۱,۸۷۹۷	Data4
۱۴,۵۹۴۴	Data5
۰,۰۸۸۲	Data6
۳۹,۱۵۹	Data7

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