

539.375

, 2012.

9

$N_1, N_2,$

N_1

α

$Ox.$

Ox

\emptyset

$N_1 = N_1^*,$

$N_2 = N_2^*,$

[1-3]

(

)

$-1 \leq d \leq 1 \quad (d = (G_2 - G_1) / (G_2 + G_1))$

$-1 \leq -d_1 < d_2 < -d_3 < 0 < d_4 < d_5 < d_6 \leq 1.$

$(-d_1; d_6)$

[2, 4].

σ_r, σ_θ

$\sigma_r = \frac{A_r}{\sqrt{r}} + 0(1), \quad \sigma_\theta = \frac{A_\theta}{\sqrt{r}} + 0(1),$

$(-d_1, d_2), (d_5, d_6)$

,

$A_\theta \sqrt{r}$

\emptyset

A_r / \sqrt{r}

$(-d_2, -d_3) \quad (d_4, d_5)$

(1)

$(-d_3, d_4)$

(

(1))

$(-d_2, d_5).$

[4,5]

$$\lim_{r \rightarrow 0} \left\{ \sqrt{r} \frac{\partial \sigma_\theta}{\partial \theta} \right\}_{\theta=\theta^*} \quad (1)$$

$$\lim_{r \rightarrow 0} \left\{ \sqrt{r} \sigma_\theta(\theta^*) \right\} = K_c, \quad (2)$$

K_c ó
 θ^* ó ,

, , σ_θ
 $\sigma_{r\theta}$,
 (1), (2). (, σ_θ).
 [4,6,7],

$$A_\theta^{\max(l,\theta)}(\theta, N_1, N_2, G_1, G_2, V_1, V_2) = K_{0\theta}, \quad d \geq d_5 \quad (3)$$

$K_{0\theta}$ ó , θ .

$$A_\theta^{\max(l,\theta)}(\theta, N_1, N_2, G_1, G_2, V_1, V_2) \quad \alpha \text{ i } \theta$$

$$(3) \quad N_1^* \tilde{A}_\theta^{\max(l,\theta)}(1, \zeta, \theta, G_1, G_2, V_1, V_2) = K_{0\theta}, \quad d \geq d_5, \quad (4)$$

$(\zeta = N_2^*/N_1^*).$

$$N_1^* = \frac{K_{0\theta}}{\tilde{A}_\theta^{\max(l,\theta)}(1, \zeta, \theta, G_1, G_2, V_1, V_2) = K_{0\theta}}, \quad d \geq d_5. \quad (5)$$

[1,2],
 σ_r . ,
 , (1)-(5)
 $d \leq -d_2$.

$$(\quad), \quad r^* < r < r^{**},$$

$\sigma_{r\theta}$. \emptyset

$$G_2/G_1 > 60$$

$$G_2/G_1 < 0,02$$

(3)-(5)

"ø - ,2012.

9 :

(ø

)

2l

(, , . . .)

(1,2),

(2)

$$\lim_{r \rightarrow 0} \left\{ \sqrt{r} \frac{\partial}{\partial \theta} \left[\frac{\sigma_\theta(r, \theta, \varphi, l)}{K(\beta)} \right] \right\} = 0, \tag{6}$$

$$\lim_{r \rightarrow 0} [\sqrt{r} \sigma_\theta(r, \theta, \varphi, l)] = K(\beta^*), \tag{7}$$

$$(\beta^* = \theta^* + \varphi),$$

α ó ; φ ó

([3],

1) , 2) ; , 3) .

$$K(\beta) = K(0^\circ) \left[\cos^4 \beta + \left(\frac{K(45^\circ)}{K(0^\circ)} - \frac{1}{4} - \frac{K(90^\circ)}{4K(0^\circ)} \right) \sin^2 \beta \cos^2 \beta + \frac{K(90^\circ)}{K(0^\circ)} \sin^4 \beta \right]. \tag{8}$$

$$[4, 5]$$

$$K(\beta) = K(0^\circ) \sqrt{1 - \sin^2 \beta \left[1 - \frac{K(90^\circ)}{K(0^\circ)} \right]}, \tag{9}$$

$K(0^\circ), K(45^\circ), K(90^\circ)$ ó ($\beta = 0^\circ, 45^\circ, 90^\circ$.

((8))

, (9).

$K(0^\circ), K(45^\circ), K(90^\circ)$ $K(0^\circ), K(90^\circ)$

(9).

() K β , (8), (9)

(7)

(7)

(7)

)

)

)

$$\sqrt{\frac{E_x}{E_y}} \leq 2$$

σ_θ $\theta = 0^\circ$. (8)

(45) (0), (

()

(1), (2)

β ,

$$\sqrt{\frac{E_x}{E_y}} > 4$$

σ_θ

(6), (7)

σ_θ

, , , , , . Ø , (6),(7) (7) , , .

- 1) « » , « » , 1972, 2, . 89-92.
- 2) « » , 1973, 10, . 8-11.
- 3) « » , 1966, 2, 11, . 63-67.
- 4) « » , 1968, 246 .
- 5) « - » , 1968, . 10-15.
- 6) « » , 1967, 6, . 88-128.
- 7) « - » , « » , 1974, 416 .