

V.B. VASILYEV, N.V. EBERLEIN

ON SOLVABILITY OF CERTAIN CLASS OF EQUATIONS

In this article we will consider boundary value problem with Dirichlet type condition for a pair of elliptic pseudo-differential equations in a plane sector in Sobolev - Slobodetskii spaces.

Keywords: pseudo-differential equation, solvability, boundary value problem.

[1,2],

(+) = (), X G Cf (i)

H(C+), + - - + = f G ... = (xj, ^, xm-p, xm), xm > a |x^, a > 0j, x' = (xp, ^, xm, ^j), A - A(^),

ci < | A(^)(l+ | ^ ^ ^ - ^ | < c2. (2)

[1,2] G . H(C+) ()

H(E^), ^ H(C+)

H(... + : * = f G = (' Xm), a X m > l x'l],

^" + / [3],

(^) = (Fu)(^) = 4m " ^ ^ u(x)dx,

(i)

A(^) +

A(^) = Ay(^)A=(^),

Ay(t), A=(t)

1) Ay(t), A=(0)

f TM : f i l 2 - a 2 l f j :

2) Ay(t), A=(i)

(' ^ ^ , (l ')

I ± + /) l < ci(l + |i| + |r|)^2^a,

I ± i(i - ir)^l < c2(l + |i| + |r|)^2^a, V T f ; .

f

1

A(i).

u+ f H^sl(), v_ f ^2(^) .

(Au+)(x) = 0, X f (3)

(Bv_)(x) = 0, X f ^ \ (4)

$$C_+ = f(X, G); \quad X_2 > a \quad |x|, \quad a > 0, \quad A, B -$$

$$A(\cdot), B(\cdot), \quad (2)$$

$$-S_i = 1 + S_i, \quad \wedge - S_2 = 1 + S_2 \quad | \quad < J/2, \quad |S_2| < 1/2.$$

$$[2], \quad (3), (4)$$

$$+(\cdot) = ; 1(\cdot) (\quad (\cdot - a^2) + rfo(\cdot + a^2)), \quad (5)$$

$$-(\cdot) = \quad (\cdot) (fo(\cdot - a^2) + qo(\cdot + a^2)), \quad (6)$$

, do, , qo -

, , do G ff^(Wi+), , qo G^3s2

$$S^{\wedge} = s_k - 1/2, \quad = 1, 2.$$

4

$$c_0, \quad d_0, \quad r_0, \quad q_0)$$

$$u+ \quad [4],$$

1.

∴ , 1973. - 232 .

2.

- 2-, 2010. - 135 .

3.

1964. - 411 .

4. Vasilyev V.B. On some transmission problems in a plane corner // Tatra Mt. Math. Publ. - 2015. - V. 63. - P. 291 - 301.

E-mail: yasilyey_v@bsu.edu.ru

∴ +7-950-710-54-55
 E-mail: 649377@bsu.edu.ru