Construction of solutions of inhomogeneous systems of Jacobi type

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Abstract: Studying the possibilities of constructing a general solution of a non-homogeneous system of second-order partial differential equations of Jacobi type, closest to ordinary differential equations of the second order. To construct a particular solution of the system is applied the method of undetermined coefficient. Specific examples are established the connection between systems of Jacobi type with one partial differential equation of the second order obtained by adding two equations of the original system.

REFERENCES

[1] Lucy Joan Slater. *Generalized hypergeometric function Gambridge at the university press.*, 1966. 271 pp.

[2] Fascicule IX. *Fonctions de la physique mathematique. Sous la direction de J.Kampe de Feriet. Centre national de la recherch scientifique.*, 1957. 102 pp.

[3] Yudell L. Luke., *Mathematical functions and their approximations Academic Press Inc.*, New York. San Francisco, London. 1975. 608 pp.

[4] Harry Bateman, Arthur Erdelyi. *Higher transcendental functions.* Volume 2. New York, Toronto, London. MC Graw-Hill, Book Company, INC, 1953, 295 pp.

[5] Gabor Szego'. *Orthogonal Polynomials. American Mathematical Socity*, New York Cit, 1952. 500 pp.

[6] Yu.I. Sikorski. *Normal solutions of linear inhomogeneous differential equations with variable coefficients*, Author's abstract. ... dis. cand. Kiev, 12 pp.

[7] Zh.N.Tasmambetov. *Construction of normal and normal-regular solutions of special systems of partial differential equations of the second order*, Aktobe: IP Zhanadilova S.T., 2015. - 463 p.

[8] Talipova M.Zh. *Construction of normal solutions of inhomogeneous systems of partial differential equations of the second order*, Author's abstract. ... dis. cand. Almaty, 2007, 12 pp.

[9] Suetin P.K. *Orthogonal polynomials in two variables.* Science, Moscow.:, 1988, 384 p.

[10] Babister A.W. *Transcendental Functions Satisfying Nonhomogeneous Linea Differential Equations.* Macmillan, New York, London, 1967.