

SUMMARY

Karpenko, I.I., Sukhtaev, A.I., Tyshkevich D.L. Spectral decomposition of a normal operator in a quaternionic Hilbert bimodule //Uchenye zapiski TNU, 2006, series "Mathematics. Mechanics. Computer Science & Cybernetics" V.19(58).1, 3 - 20.

Using the new approach to the definition of quaternionic analytic functions we received the analogue of Cauchy's formulae. The theorem about the partition of a quaternionic Hilbert bimodule into the direct sum of the invariant submodules for the continuous linear operator is proved, and also the spectral decomposition of a normal (bounded) operator in a quaternionic bimodule is constructed.

Keywords: quaternionic Hilbert bimodule, Riesz-Dunford calculation, normal operator, spectral theorems.

Lukjanova E.A., Mosentsova A.B. About solution's of some classes integral equation best accuracy //Uchenye zapiski TNU, 2006, series "Mathematics. Mechanics. Computer Science & Cybernetics" V.19(58).1, 21 - 28.

There is some method of approximated solution of Fredholm's equations of 2 class with kernel from Sobolev's classes described in this article. Proposed method consists in substitution kernel for its special Furje's sum with numbers harmonyk choosed in special way. There was proved that this method have the best precision among all methods with fixing informational vector's length.

Ключевые слова: integral equation.

Rudnitskiy, O.I., Romanenko, I.A. About the special invariants of the tetrahedral groups, generated by reflections on the unitary plane //Uchenye zapiski TNU, 2006, series "Mathematics. Mechanics. Computer Science & Cybernetics" V.19(58).1, 29 - 37.

Let P^G be algebra, generated by Pogorelov polynomials of the finite unitary reflection group G . The degrees of generators of the algebra P^G are found in the case when G is the tetrahedral group, generated by reflections on the unitary plane.

Keywords: generated by Pogorelov polynomials, reflection group, degrees of generators of the algebra, tetrahedral group.

Starkov P.A. Interior problem for Stocks equation //Uchenye zapiski TNU, 2006, series "Mathematics. Mechanics. Computer Science & Cybernetics" V.19(58).1, 38 - 43

An interior problem for linear hydrodynamics equation is studied (the Stocks equations). Before this the problem was not investigated. By the methods of orthogonal projectors and auxiliary problems a problem is taken to the abstract operator pencil which was researched in previous author's works.

Tsvetkov D.O. About one initial boundary value problem, connected with motions of system stratified fluids //Uchenye zapiski TNU, 2006, series "Mathematics. Mechanics. Computer Science & Cybernetics" V.19(58).1, 44 - 67.

There was investigated the problem on small motions. The theorem on strong solvability of initial boundary value problem is proved.