1086-46-1637
Sofya S Masharipova (sofya.masharipova@ashford.edu), Ashford University, College HHSS, 400 North Bluff Blvd, Clinton, IA 52732, and Shukhrat M Usmanov* (shukhrat.usmanov@ashford.edu), Ashford University, College HHSS, 400 North Bluff Blvd, Clinton, IA 52732. A functional representation of commutative symmetrical algebras, possessing an eigen-vector and acting on the Pontryagin Π₁ space. Preliminary report.

It is well known fact that in Pontryagin Π_1 space with an indefinite metric all weakly closed algebras of bounded operators can be classified by 6 types (models): types 0, I, II_a, II_b, III_a, III_b, according to work of V. S. Shulman (Mat. Sbornik, 1972, 89, No 2). We are proving that only types 0, I, II_a and III_a could be represented as commutative symmetrical algebras. After that, we are stating and proving the theorem of functional representation for three types: 0, II_a and III_a. For type I the theorem had proven for the case of a single operator. The problem of constructing a functional representation for an arbitrary algebra of type I (in Shulman's classification) is still open. (Received September 23, 2012)