

Dear Professor I. Dynnikov,

thank you very much for selecting me as a referee of the manuscript 'Locally adjointable operators on Hilbert C^* -modules' by D. V. Fufaev and E. V. Troitsky submitted to the Siberian Electronic Mathematical Reports (SEMR).

The authors continue their research on the nature of locally adjointable operators introduced by them in [15]. As a general result, locally adjointable operators between two Hilbert C^* -modules over an arbitrarily fixed C^* -algebra are characterized in alternative terms (Cor. 1) and shown to form a Banach subspace of the Banach algebra of all bounded C^* -linear homomorphisms from the first to the second Hilbert C^* -module. Considering bounded C^* -linear operators on one Hilbert C^* -module, the set of all locally adjointable operators on that Hilbert C^* -module forms a Banach subalgebra of the set of all bounded C^* -linear operators on this Hilbert C^* -module (Thm. 1).

Then the authors turn to the investigation of the canonical Hilbert A -module $l_2(A)$ for general C^* -algebras A . After a particular characterization of bounded $M(A)$ -linear functionals on $M(l_2(A))$ (Prop. 1) by certain sequences of elements of $M(A)$ locally adjointable bounded A -functionals on $l_2(A)$ are described (Lemma 2). In the sequel an alternative description of bounded adjointable operators of a Hilbert A -module into $l_2(A)$ is obtained (Thm. 2). Two corollaries complete the explanations.

The statements and the proofs are all correct to the best of my knowledge. A number of typos and left-of characterizing words make the reading a little bit difficult in places. The results deserve publication.

The following minor corrections should be made or considered:

page 145, line 7: write '... which C^* -linear span is ...', linearity is not sufficient.

page 145, Def. 2: the sum in the definition has to be norm-convergent, otherwise one gets a too large set for $l_2(\mathcal{A})$.

page 145, Def. 3: typo in "A-homomorphisms" concerning the font (please, check all-over how A is written).

page 145, Def. 5: γ has the range \mathcal{M} , not \mathcal{N} .

page 146, line 3: replace $R(A)$ by $RM(A)$.

page 146, first line of proof: write 'for any $x \in \mathcal{K}$, $a \in \mathcal{A}$ '. Furthermore, next line first term, it is ' $\langle \cdot, \cdot \rangle_A$ '.

page 147, line 5: '... the net $\{(F_y)^* u_\lambda\}$ is a ...'.

page 147, second centered group of formulae from above, end of first line: ' $\langle \cdot, \cdot \rangle_A$ '.

page 147, line 4 of Thm. 1: typo, write 'subalgebra'.

page 148, Lemma 2: define the symbols Γ_i in the suppositions.

page 147, last line: replace 'must' by 'has to', this is objective truth.

page 148, forth centered formula, right side: the right side is not a real number, but a real multiple of the identity of $M(\mathcal{A})$.

page 148, Cor. 2 (2): define the notion 'matrix rows' precisely.

Suggestion: Using Kasparov's theorem or Serre's-Swan's theorem, resp., for σ -unital C^* -algebras A and the results from [2,3], one obtains $M(\mathcal{M}) = \mathcal{M}^* \in (l_2(\mathcal{A})'_{LA})$ for an direct orthogonal summand of \mathcal{A}^n , $n \in \mathbb{N}$ or of $l_2(A)$, respectively. This might be an interesting observation. Simply use the orthogonal projections to the direct orthogonal summands.

I recommend the manuscript for publication after minor corrections.

Sincerely yours, the referee.