

ON SOME GENERALIZED EFFECT ALGEBRAS

ELENA VINCEKOVÁ

Mathematical Institute, Slovak Academy of Sciences
Štefánikova 49, SK-814 73 Bratislava, Slovakia

e-mail:
vincekova@mat.savba.sk

ABSTRACT. We will discuss some problems described in the papers [2] and [3].

Mainly, certain extensions of the results obtained recently in [1] will be presented. In his paper, Gudder has introduced a new ordering on the set of Quantum Observables, in the general case represented by the Generalized Effect Algebra $S(H)$ of self-adjointed operators on a complex Hilbert space. The order is such that for every Borel set Δ not containing zero, $A \preceq B$, if the proposition that A has a value in Δ implies that B has a value in Δ . Among others, we will give an affirmative answer to the open problem of the paper, if an infimum of two elements does always exist.

Also some properties (subclasses) of Generalized Effect Algebras (GEAs) preserved when factorizing by so-called Riesz Ideal will be mentioned. Necessary and sufficient condition for preserving Riesz Ideals from a GEA into the Effect Algebra of its Unitization will be stated and some illustrative examples will be shown.

REFERENCES

- [1] S. Gudder: *An Order for Quantum Observables*. Math. Slovaca, to appear.
- [2] S. Pulmannová, E. Vinceková: *Remarks on the Order for Quantum Observables*. Math. Slovaca, to appear.
- [3] S. Pulmannová, E. Vinceková: *Riesz Ideals in Generalized Effect Algebras and in their Unitizations*. Algebra Universalis, to appear.