Variations on effect algebras

AKHILESH KUMAR SINGH
Department of Mathematics
Jaypee Institute of Information Technology (Deemed University) Noida-201 304, India

ABSTRACT
The aim of the present paper is to introduce and investigate the variations of (non-additive) functions defined on effect algebras. The notion of the variation of a general function is introduced on an effect algebra L and it is proved that it always exists, but in general case it is not unique; the notions of orthogonal variation $\overline{m},$ chain variation $|m|$ and inclusion variation $|m|_i$ of a real-valued function m defined on L are introduced and its properties are discussed elaborately. Finally, it is also proved that the orthogonal variation $\overline {m}$ of a modular measure m defined on a σ-complete D-lattice L is the smallest variation on L.