MR1075141 (91i:46082) 46L70 (17C65)
Stachó, L. L. (H-SZEG-B)
On the spectrum of inner derivations in partial Jordan triples.
Math. Scand. **66** (1990), *no. 2,* 242–248.

Let E [resp. E_0] be a complex Banach space [resp. a closed complex subspace of E]. An algebraic structure $(E, E_0, \{*\})$ is called a partial Hermitian Jordan triple system or partial J^*-triple [resp. J^*-triple if $E = E_0$] if it is equipped with a triple product $\{*\}\colon E \times E_0 \times E \to E$, $(x, a, y) \mapsto \{xa^*y\}$ symmetric bilinear in x, y and conjugate linear in a such that (J1) $\{E_0E_0^*E_0\} \subset E_0$, (J2) $\{ab^*\{xy^*z\}\} = \{\{ab^*x\}y^*z\} - \{x\{ba^*y\}^*z\} + \{xy^*\{ab^*z\}\}$, (J3) $a\square a^* \in \mathrm{Her}(E)$ $(a \in E_0)$, where $a\square b^*$ is the operator $x \mapsto \{ab^*x\}$ and $\mathrm{Her}(E)$ stands for the family of all Hermitian operators over E. It is said that a partial J^*-triple $(E, E_0, \{*\})$ is positive if for every $a \in E_0$ the spectrum $\mathrm{Sp}(a\square a^*)$ is nonnegative and geometric if all vector fields $(a - \{xa^*x\})\partial/\partial z$ ($a \in E_0$) are complete in some bounded balanced domain in E. The main result of this paper is the following theorem: Every geometric partial J^*-triple is positive. As an analogous application, the author also shows a new proof of W. Kaup's spectral estimate for J^*-triples [Math. Z. **183** (1983), no. 4, 503–529; MR0710768 (85c:46040)].

Reviewed by *Josuke Hakeda*