

INTISARI

KOMPLEMEN NORMAL DAN OPERATOR-OPERATOR PADA RUANG INNER PRODUK *NON-ARCHIMEDEAN* $c_0(\mathbb{K})$

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Di dalam tesis ini, dibicarakan subruang tertutup yang mempunyai komplemen normal di ruang inner produk *non-Archimedean* $(c_0(\mathbb{K}), \langle \cdot, \cdot \rangle)$, yaitu subruang tertutup $M \subseteq c_0(\mathbb{K})$ sehingga $c_0(\mathbb{K}) = M \oplus M^\perp$ dan $\langle x, y \rangle = 0$ untuk setiap $x \in M$ dan $y \in M^\perp$. Diantara subruang-subruang yang mempunyai komplemen normal tersebut adalah subruang berdimensi berhingga, subruang tertutup yang mempunyai basis ortonormal yang bersifat Riemann-Lebesgue dan ruang nol dari fungsional Riesz. Disamping itu, di dalam tesis ini dibahas operator proyeksi normal, adjoint dan self adjoint pada ruang inner produk *non-Archimedean* $c_0(\mathbb{K})$.

ABSTRACT

NORMAL COMPLEMENT AND OPERATORS ON NON-ARCHIMEDEAN INNER PRODUCT SPACE $c_0(\mathbb{K})$

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In this thesis, we study a closed subspace of the non-Archimedean inner product space $(c_0(\mathbb{K}), \langle \cdot, \cdot \rangle)$ which has a normal complement, that is, a closed subspace $M \subseteq c_0(\mathbb{K})$ such that $c_0(\mathbb{K}) = M \oplus M^\perp$ and $\langle x, y \rangle = 0$ for all $x \in M$ and $y \in M^\perp$. Among the subspaces which have normal complement are finite-dimensional subspaces, closed subspaces that have an orthonormal basis with the Riemann-Lebesgue property and null spaces of Riez functional. In addition, in this thesis, we also discuss about normal projection, adjoint and self adjoint operators on non-Archimedean inner product space $c_0(\mathbb{K})$.