INTISARI

Integral Henstock-Stieltjes dan Integral Nonlinear Fungsi Baire Terbatas

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Pada tesis ini dibahas syarat cukup agar fungsi Baire-k terbatas terintegral Henstock-Stieltjes dan terintegral nonlinear, dengan $k \in \mathbb{N}$. Dengan memandang himpunan semua fungsi Baire-k terbatas, $\mathfrak{bB}_k[a,b]$, sebagai ruang *two-norm*, berhasil dibuktikan teorema representasi untuk fungsional kontinu *two-norm* pada $\mathfrak{bB}_k[a,b]$ dalam bentuk integral Henstock-Stieltjes. Lebih lanjut, dibangun teorema representasi dalam bentuk integral nonlinear untuk fungsional aditif ortogonal dan *almost boundedly continuous* pada $\mathfrak{bB}_k[a,b]$.

ABSTRACT

The Henstock-Stieltjes Integral and the Nonlinear Integral of Bounded Baire Functions

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In this thesis, we give sufficient conditions for bounded Baire-k functions to be integrable in the sense of the Henstock-Stieltjes integral and the nonlinear integral, where $k \in \mathbb{N}$. By considering the space of all bounded Baire-k functions, $\mathfrak{bB}_k[a,b]$, as a two-norm space, we prove a representation theorem for two-norm continuous linear functionals defined on $\mathfrak{bB}_k[a,b]$ in terms of the Henstock-Stieltjes integral. Furthermore, we prove a representation theorem for orthogonally additive and almost boundedly continuous functionals on the space $\mathfrak{bB}_k[a,b]$ is given in terms of the nonlinear integral.