

SEQUENTIAL YEH-FEYNMAN INTEGRALS

IL YOO

R.H. Cameron and D.A. Storvick have introduced some Banach algebras of analytic Feynman integrable functionals, and gave formulas for the Feynman integral of these functionals. They have also defined the sequential Feynman integral and established the relationship between the analytic Feynman integral and the sequential Feynman integral. Recently they have obtained change of scale formulas for Wiener integrals. G.W. Johnson and D.L. Skoug simplified and extended Cameron and Storvick's results on Banach algebras of analytic Feynman integrable functionals.

There are two parts in this thesis, the first part concerns with sequential Yeh-Feynman integrals, and the second part deals with change of scale formulas for Yeh-Wiener integrals. In fact, chapter one extends the concept of the sequential Feynman integral to that of the sequential Yeh-Feynman integral, and presents the translation theorem for the sequential Yeh-Feynman integral derived from that for the analytic Yeh-Feynman integral. In chapter two, we obtain the relationships between the Yeh-Wiener integral and the analytic Yeh-Feynman integral in two different ways, and find change of scale formulas for Yeh-Wiener integrals for a class of functionals S .

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