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| Thesis Title | Diamond Heat Kernel Related to the Spectrum and Applications of Distribution Kernel | |
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ABSTRACT

In this thesis, firstly we study the generalized Diamond heat equation and then we give some properties of the Diamond heat kernel related to the spectrum. Next, we define and study the Green function of the $(\oplus + m^2)^k$ operator. Moreover, such solution related to the elementary solutions of the Klein-Gordon operator, the Helmholtz operator and the Diamond operator of the form $(\diamond + m^2)^k$. After that, we study the nonlinear product of the Diamond and Klein-Gordon operators with boundary condition related to the biharmonic equation. Finally, we give a new method of finding the elementary solution of the Telegraph equation by application the distribution $e^{\alpha t} \square^k \delta$. The results obtained in this thesis extend and improve several results obtained in this area.

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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