EXTENSION OF THE *dRGT* MASSIVE GRAVITY FOR COSMOLOGICAL ASPECTS

LUNCHAKORN TANNUKIJ 5437452 SCPY/D

Ph.D. (PHYSICS)

THESIS ADVISORY COMMITTEE : ALEJANDRO SAIZ RIVERA, Ph.D., PITAYUTH WONGJUN, Ph.D., UDOM ROBKOB, Ph.D.

ABSTRACT

dRGT Massive gravity is recently one of the most promising candidates for the massive gravity theories which is successful in introducing mass to graviton without introducing the Boulware-Deser ghost instability. However, as far as the isotropic and homogeneous universe is concerned, dRGT Massive gravity is still not a good model for the Friedmann-Lemaître-Robertson-Walker (FLRW) spacetime, which represents the geometry of such a universe. Here the further modifications of the dRGT Massive gravity are considered and analyzed in various ways such as the ghost instability investigation, degree of freedom counting, and also the corresponding cosmic evolutions.

KEY WORDS : GRAVITON / dRGT MASSIVE GRAVITY / COSMOLOGICAL SOLUTION / GHOST

134 pages