

## Abstract

This thesis presents an introduction to the three main fields that study time: physics, philosophy, and logics. A brief introduction to general relativity, thermodynamics and quantum physics is made. Also some of the basic ideas from the philosophy of time are explained and dualities connected to time are described, e.g. eternalism vs. presentism, determinism vs. indeterminism and the reality or unreality of time. As there is a huge number of temporal logics, only the main ideas that differentiate these logics from others are pointed out and some typical proofs are then shown. Special attention is then given to the relation between logics and physics, how the first can be used in the latter. Thereafter, Branching space-times and Branching continuation models are presented, which proved to be useful within quantum physics. Next, some basic terminology connected to general relativity and the A, P and T topologies are introduced. These are used together with the given models to investigate a possible combination.