Abstract

The subject of this Master’s thesis is the information loss paradox. In the first chapters we treat the theoretical background needed to understand the original calculation carried out by Hawking that shows that black holes radiate. A detailed discussion of this calculation, its implications for information loss and its validity is provided in the chapters 3 to 5. Then we focus on the suggested solutions to the paradox. In particular, we investigate one of these proposals that was found by Mathur using string theory. We subject this so-called ‘fuzzball’ picture to a test that should give some insight regarding the question whether or not Mathur’s proposal is likely to solve the paradox in the long run. We were unable to draw a definite conclusion. We do, however, obtain a couple of intermediate results that can be useful in successive research. Some suggestions for a follow up are given explicitly.