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Thesis Title	<i>Analysis of the first gravitational wave detection and extraction of main parameters</i>
Supervisor	T. Apostolatos, Associate Professor
Summary	On September 14 2015, the LIGO gravitational wave detectors made history with their first observation of gravitational waves, beginning a new chapter on observational astrophysics. In my thesis, we recreating the calculations of LIGO on that event using less advanced computational procedures. We used spectral analysis to reduce the noise from both signals of H1 and L1 and reveal the gravitational signal. Moreover, we calibrated the gravitational wave amplitude comparing theoretical templates with the data and we extracted the main parameters of the binary black hole system. More specifically we used Python to calculate parameters such as chirp mass, initial total mass, final mass, final spin, cosmological distance and the source position in the sky. In the end, we compared our results with the results of LIGO.
Key words	Gravitational waves, gravitational signal, Gravitational wave analysis, LIGO
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