

Contents

| | | |
|------------|---|-----------|
| 0 | Summary of doctoral thesis (in Spanish, English and Catalan). | 3 |
| 1 | Underwater neutrino telescopes. | 9 |
| 1.1 | Introduction to underwater neutrino telescopes. | 9 |
| 1.2 | Scientific aims of underwater neutrino telescopes. | 14 |
| 1.3 | ANTARES. | 20 |
| 1.4 | KM3NeT. | 27 |
| 2 | Acoustic positioning system. | 32 |
| 2.1 | ANTARES positioning system. | 32 |
| 2.2 | R&D for the KM3NeT acoustic positioning system. | 37 |
| 3 | Development of calibration systems for acoustic detection of neutrinos. | 45 |
| 4 | Publication summaries (in Spanish). | 51 |
| | References. | 62 |
| | Publications. | |