1. Record Nr. UNINA9910300548003321

Autore	Clough Katy
Titolo	Scalar Fields in Numerical General Relativity : Inhomogeneous Inflation and Asymmetric Bubble Collapse / / by Katy Clough
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-92672-1
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (207 pages)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	530.11015153
Soggetti	Cosmology Gravitation Physics Classical and Quantum Gravitation, Relativity Theory Numerical and Computational Physics, Simulation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part I: Background Material -- Introduction -- Technical Background -- Part II: Code Development Work -- GRChombo - Code Development and Testing -- Part III: Research Work -- Inhomogeneous Inflation -- Critical Bubble Collapse -- Conclusions and Further Work.
Sommario/riassunto	This book explores the use of numerical relativity (NR) methods to solve cosmological problems, and describes one of the first uses of NR to study inflationary physics. NR consists in the solution of Einstein's Equation of general relativity, which governs the evolution of matter and energy on cosmological scales, and in systems where there are strong gravitational effects, such as around black holes. To date, NR has mainly been used for simulating binary black hole and neutron star mergers like those detected recently by LIGO. Its use as a tool in fundamental problems of gravity and cosmology is novel, but rapidly gaining interest. The author investigates the initial condition problem in early universe cosmology – whether an inflationary expansion period could have "got going" from initially inhomogeneous conditions – and identifies criteria for predicting the robustness of particular models. Further, it develops state-of-the-art numerical relativity tools in order

to address this question, which are now publicly available.

2. Record Nr. UNINA9910144470103321

Titolo	Nature protocols
Pubbl/distr/stampa	London, UK : , : Nature Pub. Group, , 2006-
ISSN	1750-2799
Descrizione fisica	1 online resource
Disciplina	570.28
Soggetti	Biology - Methodology Chemistry - Methodology Biology Chemistry Medical protocols Clinical Laboratory Techniques Biology - methods Biomedical Research - methods Naturwissenschaften Periodical Periodicals Handbooks and manuals. Zeitschrift Online-Publikation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Periodico
Note generali	Refereed/Peer-reviewed
Sommario/riassunto	Nature Protocols is an interactive online resource for experimental and laboratory protocols for bench researchers primarily in biology and chemistry. Protocols are presented in a 'recipe' style providing step-by-step descriptions of procedures that users can take to the lab bench and immediately apply in their own research. Protocols on the site are

fully searchable and organized into logical categories to be easily accessible. Together, 'Nature Protocols' and the interactive 'Protocols Network' create a dynamic forum for scientists to upload and comment on protocols.