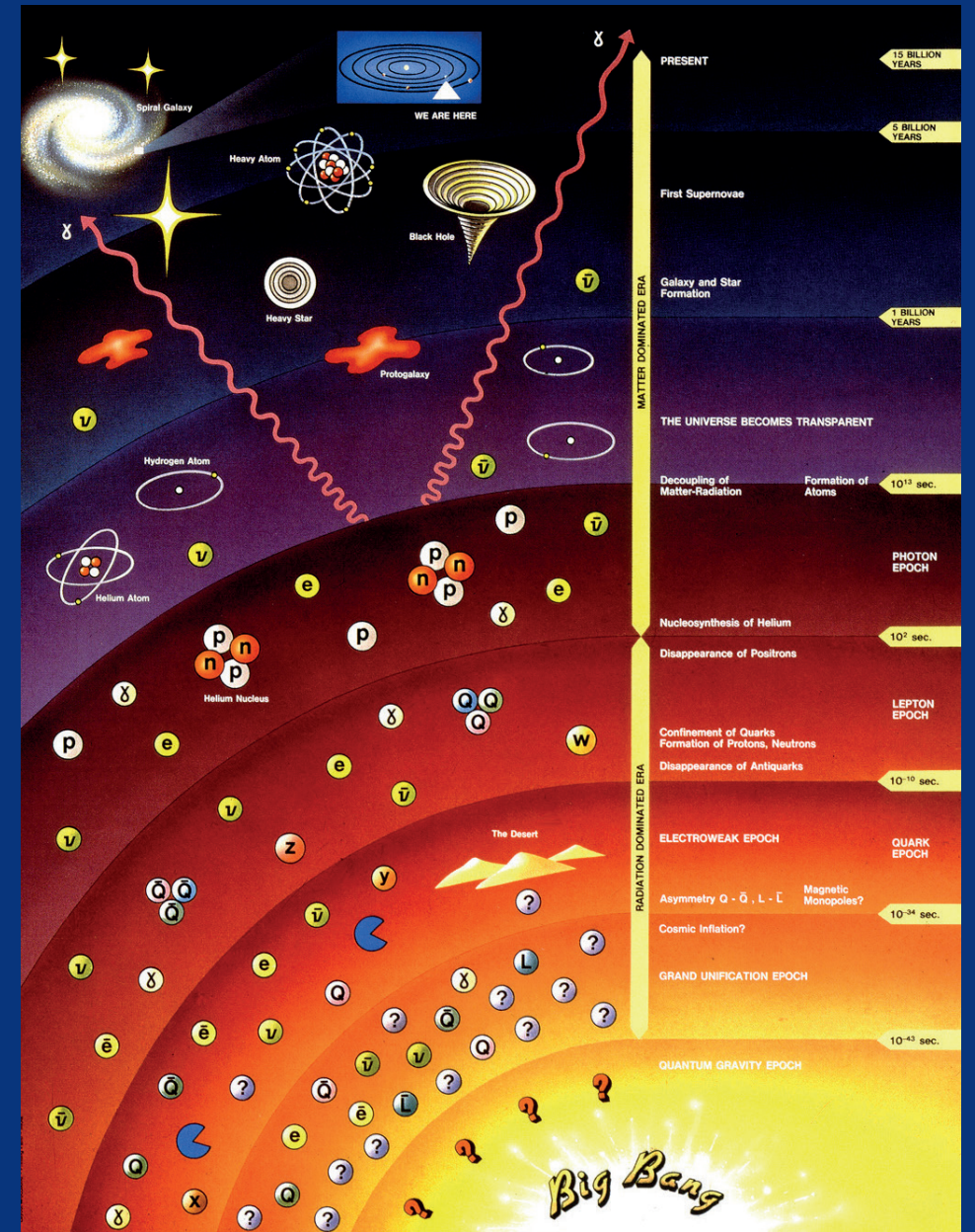
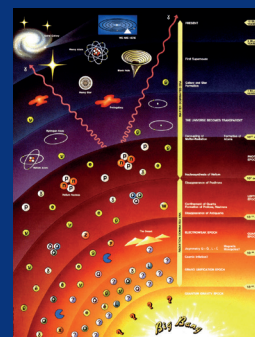


RELIC GRAVITONS



Massimo Giovannini

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Relic Gravitons delves into the cosmic backgrounds of stochastic gravitational waves, exploring their potential as a unique source of information on the early physical conditions of the Universe close to the Planck epoch. Drawing on various lecture notes, articles, and reviews since the early 1990s, the monograph presents a topical account of the subject. The aim is to offer students and practitioners a useful tool for understanding the most recent developments of a lively field that is now thriving also thanks to forthcoming observational data.

While the detection of diffuse backgrounds of gravitational radiation might improve current bounds on the supplementary polarizations of gravitational waves, the author explores across the sixteen chapters of the monograph the sensitivity of cosmic gravitons to the new physics beyond the standard lore of fundamental interactions. It is argued that the discovery of relic gravitons may trigger a paradigm shift whose implications are yet to be fully understood.

In different respects, the physics of relic gravitons bridges the microworld of the standard model of fundamental interactions with the macroworld of gravity and cosmology. The ultimate purpose of this book is then to provide, at once, a systematic and self-contained presentation which is still sorely lacking in the current literature.

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