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		1.4.6 Gravitational waves1.5 GRT - first approximation - predictions and tests; 1.5.1 Newton gravity; 1.5.2 Classical tests; 1.5.2.1 Gravitational redshift; 1.5.2.2 Orbit precession; 1.5.2.3 Deflection of a light beam; 1.5.3 Gravitational lenses in GRT; 1.6 Exact solutions; 1.6.1 Star: static spherically symmetric case; 1.6.2 Universe: cosmological constant and expansion; 1.7 Observations on the cosmological scale; 1.7.1 Rotation curves and their interpretation; 1.7.2 Break of linearity in

Sommario/riassunto	The aim of the book is to provide a new and fruitful approach to the challenging problems of modern physics, astrophysics, and cosmology. The well-known observations of the flat rotation curves of spiral galaxies and of the gravitational lensing effect greatly exceeding the expectations based on the classical GRT can be explained without bringing in the notion of dark matter. The Tully-Fisher law and the unusual features of globular clusters' motion become clear. It also turns out that new features appear in the cosmological picture that involves the Universe expansion and the acceleration of