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	Sommario/riassunto	In 1965 Penrose introduced the fundamental concept of a trapped surface, on the basis of which he proved a theorem which asserts that a spacetime containing such a surface must come to an end. The presence of a trapped surface implies, moreover, that there is a region of spacetime, the black hole, which is inaccessible to observation from infinity. A major challenge since that time has been to find out how trapped surfaces actually form, by analyzing the dynamics of gravitational collapse. The present monograph achieves this aim by establishing the formation of trapped surfaces in pure general relativity through the focusing of gravitational waves. The theorems proved in the present monograph constitute the first foray into the long-time dynamics of general relativity in the large, that is, when the initial data are no longer confined to a suitable neighborhood of trivial data. The main new method, the short pulse method, applies to general systems of Euler-Lagrange equations of hyperbolic type, and provides the means to tackle problems which have hitherto seemed unapproachable. This monograph will be of interest to people working in general relativity, geometric analysis, and partial differential equations.