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Nota di contenuto	1. The order parameter fluctuations of seismicity are minimized before major earthquakes -- 2. A straightforward experimental fact demonstrating the physical interconnection of a SES activity with seismicity -- 3. The spatiotemporal variations of the minimum of the seismicity order parameter fluctuations may estimate the epicenter of an impending major earthquake -- 4. Temporal correlations in the magnitude time series before and after the minimum of the order parameter fluctuations of seismicity -- 5. Identifying the occurrence time of a mainshock by means of the minimum of the seismicity order parameter fluctuations -- 6. On a unique increase of the seismicity order parameter fluctuations before the 9 Tohoku earthquake in Japan in 2011 -- 7. Minimum of the seismicity entropy change under time reversal before major earthquakes in natural time analysis -- 8. Fluctuations of the entropy change of seismicity under time reversal before major earthquakes in natural time analysis -- 9. Identifying the occurrence time of a mainshock by means of the fluctuations of the seismicity entropy change under time reversal -- 10. Compatibility of the SES generation model with the precursory phenomena before the

Tohoku 9 earthquake in Japan in 2011 -- 11. Recent advances on the estimation of a future earthquake epicenter based on natural time -- 12. Study of the global seismicity using natural time analysis -- 13. Applications of natural time analysis to disaster prediction in other disciplines. .

Sommario/riassunto

This monograph contains the advances achieved based on the content of our previous monograph published in 2011. In other words, the present monograph can be considered as "Part II" containing new results accomplished in the last decade. These were published in several reputed international journals based on the concept of natural time discussed in detail in our earlier monograph. The analysis in natural time enables the study of the dynamical evolution of a complex system and identifieswhen the system enters a critical stage. A wide range of applications are discussed, such as the cases of environmental extreme events-disasters and sudden cardiac death. More light is shed on changes of natural time features before major earthquakes like the 2011 M9 Tohoku earthquake in Japan and the 2017 M8.2 Chiapas earthquake in Mexico. Hence, natural time analysis plays a key role in predicting impending catastrophic events in general with a primary audienceResearchers and Academics in Physics, Earth Sciences, and Medicine.