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Nota di contenuto	Introduction -- Processes described by quaternion models -- Deterministic chaos properties -- Analysis of chaos from time series-existing methods survey -- Analysis of chaos from quaternion time series-proposed methods -- Numerical Experiments -- Analysis of chaos for quaternion time series -- Comparison against existing approaches -- Quaternions clustering -- Summary.
Sommario/riassunto	This book presents a new approach for the analysis of chaotic behavior in non-linear dynamical systems, in which output can be represented in quaternion parametrization. It offers a new family of methods for the analysis of chaos in the quaternion domain along with extensive numerical experiments performed on human motion data and artificial data. All methods and algorithms are designed to allow detection of deterministic chaos behavior in quaternion data representing the rotation of a body in 3D space. This book is an excellent reference for engineers, researchers, and postgraduate students conducting research on human gait analysis, healthcare informatics, dynamical systems with deterministic chaos or time series analysis.