1. Record Nr. UNINA9910484467903321

Autore	Gomez-Pilar Javier
Titolo	Characterization of Neural Activity Using Complex Network Theory : An Application to the Study of Schizophrenia / / by Javier Gomez-Pilar
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-49900-6
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (79 pages) : illustrations
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	612.01427
Soggetti	Computational complexity Neurosciences Graph theory Complexity Graph Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Hypotheses and objectives -- 3 Materials and methods -- Results -- Discussion.
Sommario/riassunto	This book reports on the development and assessment of a novel framework for studying neural interactions (the connectome) and their dynamics (the chronnectome). Using EEG recordings taken during an auditory oddball task performed by 48 patients with schizophrenia and 87 healthy controls, and applying local and network measures, changes in brain activation from pre-stimulus to cognitive response were assessed, and significant differences were observed between the patients and controls. This book investigates the source of the network abnormalities and presents new evidence for the disconnection hypothesis and the aberrant salience hypothesis with regard to schizophrenia. Moreover, it puts forward a novel approach to combining local regularity measures and graph measures in order to characterize schizophrenia brain dynamics, and presents interesting findings on the regularity of brain patterns in healthy control subjects versus patients with schizophrenia. Besides providing new evidence for the disconnection hypothesis, it offers a source of inspiration for future

research directions in the field.