1. Record Nr. UNINA9910317737703321 Autore Reza Fazel-Rezai Titolo Brain-computer interface system: recent progress and future prospects Pubbl/distr/stampa IntechOpen, 2013 [Place of publication not identified]:,: IntechOpen,, 2013 ©2013 **ISBN** 953-51-4247-X Edizione [1st ed.] Descrizione fisica 1 online resource (284 pages) Disciplina 612.80285 Soggetti COMPUTERS / Human-Computer Interaction (HCI) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Sommario/riassunto Brain-Computer Interface (BCI) systems allow communication based on a direct electronic interface which conveys messages and commands directly from the human brain to a computer. In the recent years, attention to this new area of research and the number of publications discussing different paradigms, methods, signal processing algorithms, and applications have been increased dramatically. The objective of this book is to discuss recent progress and future prospects of BCI systems. The topics discussed in this book are: important issues concerning end-users: approaches to interconnect a BCI system with one or more applications; several advanced signal processing methods (i.e., adaptive network fuzzy inference systems, Bayesian sequential learning, fractal features and neural networks, autoregressive models of wavelet bases, hidden Markov models, equivalent current dipole source localization, and independent component analysis); review of hybrid and wireless techniques used in BCI systems; and applications of BCI systems in

epilepsy treatment and emotion detections.