

1. Record Nr.	UNINA9910438034703321
Autore	Bensoussan Alain
Titolo	Mean field games and mean field type control theory // Alain Bensoussan, Jens Frehse, Phillip Yam
Pubbl/distr/stampa	New York : , : Springer, , 2013
ISBN	1-4614-8508-8
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (x, 128 pages)
Collana	SpringerBriefs in Mathematics, , 2191-8198
Disciplina	515.642
Soggetti	Mean field theory Control theory Game theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"ISSN: 2191-8198." "ISSN: 2191-8201 (electronic)."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- General Presentation of Mean Field Control Problems -- Discussion of the Mean Field game -- Discussion of the Mean Field Type Control -- Approximation of Nash Games with a large number of players -- Linear Quadratic Models -- Stationary Problems- Different Populations -- Nash differential games with Mean Field effect.
Sommario/riassunto	Mean field games and Mean field type control introduce new problems in Control Theory. The terminology "games" may be confusing. In fact they are control problems, in the sense that one is interested in a single decision maker, whom we can call the representative agent. However, these problems are not standard, since both the evolution of the state and the objective functional is influenced but terms which are not directly related to the state or the control of the decision maker. They are however, indirectly related to him, in the sense that they model a very large community of agents similar to the representative agent. All the agents behave similarly and impact the representative agent. However, because of the large number an aggregation effect takes place. The interesting consequence is that the impact of the community can be modeled by a mean field term, but when this is done, the problem is reduced to a control problem. .

