

1. Record Nr.	UNINA9910463858603321
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Titolo	American-type options : stochastic approximation methods. Volume 1 // Dmitrii S. Silvestrov
Pubbl/distr/stampa	Berlin : , : De Gruyter, , [2014] ©2014
ISBN	3-11-032982-4
Descrizione fisica	1 online resource (520 p.)
Collana	De Gruyter studies in mathematics, , 0179-0986 ; ; volume 56
Disciplina	332.6/01/5195
Soggetti	Options (Finance) - Mathematical models Stochastic approximation Markov processes Business mathematics Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front matter -- Preface -- Contents -- 1. Multivariate modulated Markov log-price processes (LPP) -- 2. American-type options -- 3. Backward recurrence reward algorithms -- 4. Upper bounds for option rewards -- 5. Convergence of option rewards - I -- 6. Convergence of option rewards - II -- 7. Space-skeleton reward approximations -- 8. Convergence of rewards for Markov Gaussian LPP -- 9. Tree-type approximations for Markov Gaussian LPP -- 10. Convergence of tree-type reward approximations -- Bibliographical Remarks -- Bibliography -- Index -- Back matter
Sommario/riassunto	The book gives a systematical presentation of stochastic approximation methods for models of American-type options with general pay-off functions for discrete time Markov price processes. Advanced methods combining backward recurrence algorithms for computing of option rewards and general results on convergence of stochastic space skeleton and tree approximations for option rewards are applied to a variety of models of multivariate modulated Markov price processes. The principal novelty of presented results is based on consideration of multivariate modulated Markov price processes and general pay-off

functions, which can depend not only on price but also an additional stochastic modulating index component, and use of minimal conditions of smoothness for transition probabilities and pay-off functions, compactness conditions for log-price processes and rate of growth conditions for pay-off functions. The book also contains an extended bibliography of works in the area. This book is the first volume of the comprehensive two volumes monograph. The second volume will present results on structural studies of optimal stopping domains, Monte Carlo based approximation reward algorithms, and convergence of American-type options for autoregressive and continuous time models, as well as results of the corresponding experimental studies.

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