

**Alvarez, Olivier; Bardi, Martino**

**Ergodic problems in differential games.** (English) [Zbl 1153.91346](#)

Jørgensen, Steffen (ed.) et al., Advances in dynamic game theory. Numerical methods, algorithms, and applications to ecology and economics. Most of the papers based on the presentations at the 11th international symposium on dynamics games and application, Tucson, AZ, USA, December 2004. Boston, MA: Birkhäuser (ISBN 978-0-8176-4399-7/hbk). Annals of the International Society of Dynamic Games 9, 131-152 (2007).

Summary: We present and study a notion of ergodicity for deterministic zero-sum differential games that extends the one in classical ergodic control theory to systems with two conflicting controllers. We show its connections with the existence of a constant and uniform long-time limit of the value function of finite horizon games, and characterize this property in terms of Hamilton-Jacobi-Isaacs equations. We also give several sufficient conditions for ergodicity and describe some extensions of the theory to stochastic differential games.

For the entire collection see [\[Zbl 1113.91004\]](#).

**MSC:**

[91A23](#) Differential games (aspects of game theory)

[91A05](#) 2-person games

Cited in **12** Documents

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