

# Long time behavior of differential games in the plane

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We investigate the long time average of periodic differential games in the plane, i.e., the long time behavior of solutions of Hamilton-Jacobi equations with a non coercive, non convex Hamiltonian in the two-dimensional torus. We give nonresonance conditions under which the long-time average converges to a constant. In the resonant case, we show that the limit still exists, although it is non constant in general. We compute the limit at points where it is not locally constant.

## Références

- [1] CARDALIAGUET, *Ergodicity of Hamilton-Jacobi equations with a non coercive non convex Hamiltonian in  $R^2/Z^2$* , Pre-print HAL, 2008.