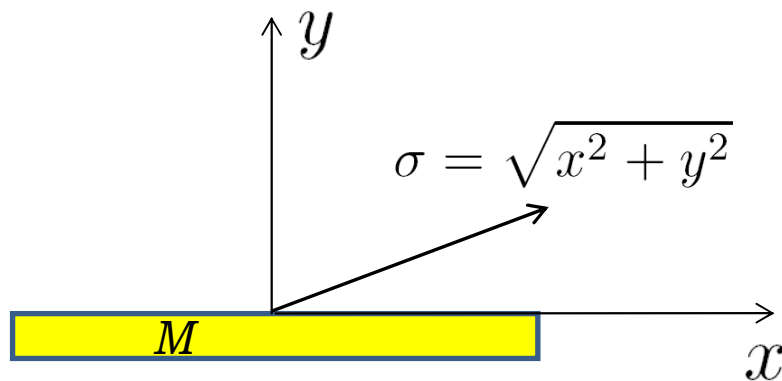# Acoustic game

P. Cardaliaguet, M. Quincampoix, P. Saint-Pierre (1999). Set-valued numerical analysis for optimal control and differential games. In: M. Bardi, T.E.S. Raghavan, T. Parhasarathy (eds.), *Stochastic and Differential Games: Theory and Numerical Methods, Annals of the International Society of Dynamic Games.* Boston: Birkhäuser, Vol. 4, 177−247.

P. Bernhard, B. Larrouturou (1989). Etude de la barriere pour un probleme de fuite optimale dans le plan. Rapport de Recherche. Sophia-Antipolis: INRIA.

$$\dot{x} = -yu + v_x$$
$$\dot{y} = \ \ xu + v_y - 1$$

$$\sigma = \sqrt{x^2 + y^2}$$

$$|u| \le 1, \quad v \in \ \boxed{\text{radius depends on } \sigma}$$

Radius of the circle constraint

$$\nu(x, y) = \nu^* \min\left\{1, \sqrt{x^2 + y^2}/s\right\}$$

ν^*

s

σ