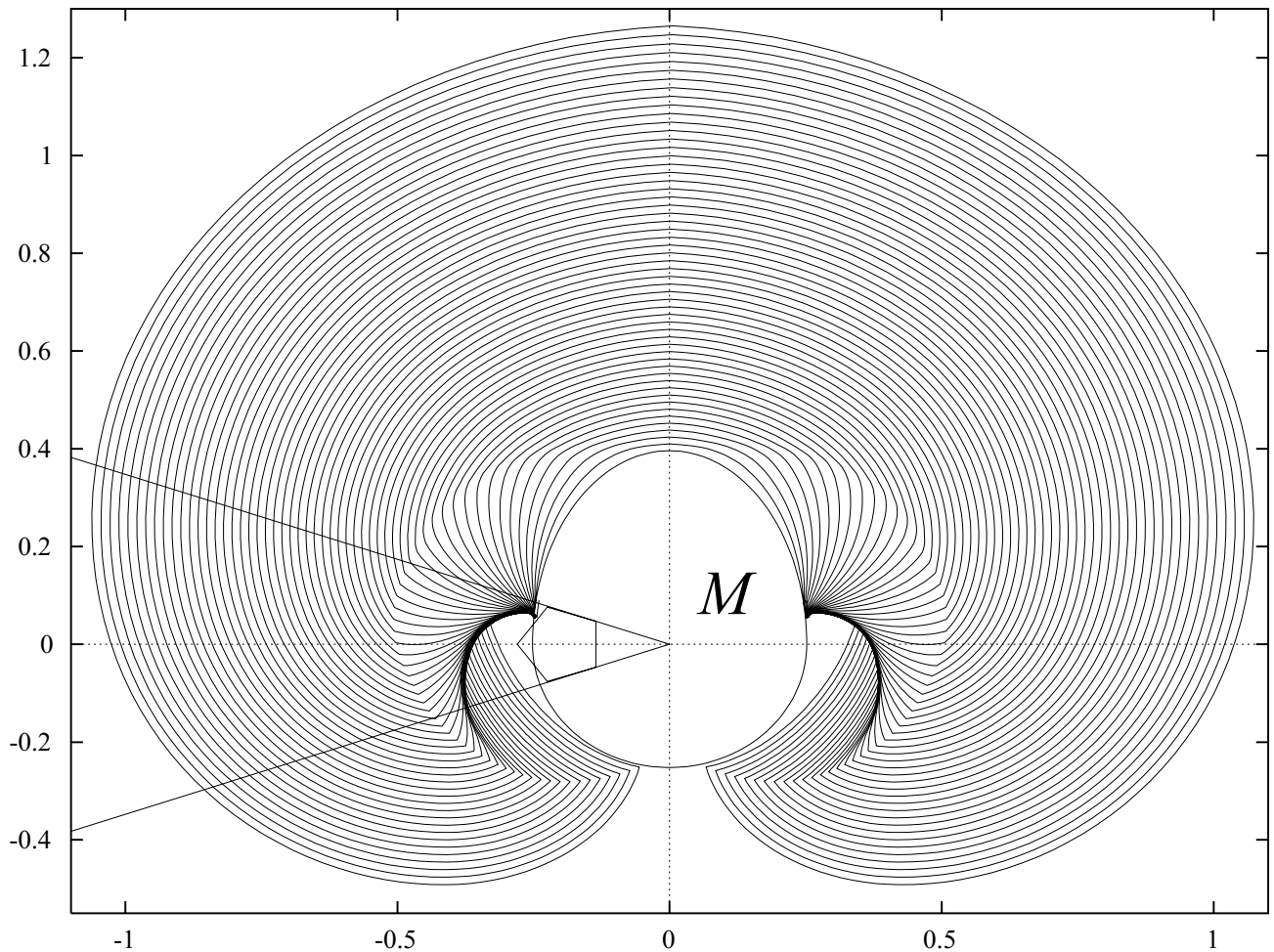


# TIME-OPTIMAL GAME PROBLEM (Homicidal Chauffeur Game)



$$\dot{x}_1 = -\frac{w^{(1)}}{R} x_2 u + v_1$$

$$\dot{x}_2 = \frac{w^{(1)}}{R} x_1 u + v_2 - w^{(1)}$$

$$|u| \leq 1, v \in Q = \text{pentagon}$$

$$\text{diam } Q = 0.8$$

$$w^{(1)} = 2, R = 0.2,$$

Payoff is the time of approach of  $M$