$$Q(S) = \hat{I} + C_2(S) + C_2^2(S) + \dots, \quad C_2(S) = -(S * B_1 + \dots + S^q + B_q),$$

$$\hat{\pi} * \begin{pmatrix} S^p * P(S) & 0 \\ 0 & S^q * Q(S) \end{pmatrix} * \begin{pmatrix} u \\ v \end{pmatrix} = S^q * \hat{\pi} * \begin{pmatrix} S^{p-q} * P(S) & 0 \\ 0 & Q(S) \end{pmatrix} * \begin{pmatrix} u \\ v \end{pmatrix} =$$

$$= S^q * \hat{\pi} * \left[ \begin{pmatrix} 0 & 0 \\ 0 & Q(S) \end{pmatrix} + S^{p-q} * \begin{pmatrix} P(S) & 0 \\ 0 & 0 \end{pmatrix} \right] * \begin{pmatrix} u \\ v \end{pmatrix} =$$

$$= S^q * \left[ \begin{pmatrix} -Q(S) * v \\ Q(S) * v \end{pmatrix} + S^{p-q} * \begin{pmatrix} P(S) * u \\ -P(S) * u \end{pmatrix} \right] =$$

$$= S^q * \left[ \begin{pmatrix} -v \\ v \end{pmatrix} + S * \Psi_1(u, v) + S^2 * \Psi_2(u, v) + \dots \right],$$

i.e. $\Psi_0(u, v) = \begin{pmatrix} -v \\ v \end{pmatrix}$. Therefore, if the convex hull of the set $V$ contains an interior point, then the set

$$\bigcap_{u \in U} \text{co}_v \, \Psi_0(u, v) = \text{co}_v \begin{pmatrix} -v \\ v \end{pmatrix}$$

contains an interior point as well. The conditions of Theorem 1 are fulfilled and so for sufficiently small $\mu$ there exists an evasion strategy and

$$\varrho(z_\mu(t), M) \geqq \frac{1}{2} \left( \frac{\varrho(z_\mu(0), M)}{\lambda v} \right)^q \frac{1}{(1 + |Z_\mu(t)|)^q}$$

for $\lambda$, $v$ sufficiently large, where $\theta$ is a positive constant.

(2) It is possible to compute that for $p = q$ the vector $\Psi_0(u, v) = \begin{pmatrix} u - v \\ v - u \end{pmatrix}$. To satisfy the condition $\text{int} \bigcap_{u \in U} \text{co}_v \, \Psi_0(u, v) \neq \emptyset$ it suffices to satisfy the condition: $\text{int co } V \neq \emptyset$ and $U \subset^* \text{int co } V$, where co $V$ is the convex hull of $V$ and $U \subset^* \text{int co } V$ means that there exists a vector $a \in R^k$ such that $U + a = \{u + a \mid u \in U\} \subset \subset \text{int co } V$.

This example for $\mu = 0$ was shown by R. V. GAMKRELIDZE in his lecture during the semester on optimal control theory held in the S. Banach International Mathematical Center in Warsaw in 1973.

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