

the \mathbb{R}^n -valued function \mathbf{f} is a solution of the system (1) if and only if \mathbf{f} is a solution of the system (2).

Let us assume that the matrix \mathbf{A} is invertible. Then the system (2) can be written in the form

$$\mathbf{f}' = \mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})\mathbf{f} + \mathbf{A}^{-1}\mathbf{D}. \quad (3)$$

Let us assume that the matrix $\mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})$ is invertible. Then the system (3) can be written in the form

$$\mathbf{f}' = \mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})\mathbf{f} + \mathbf{A}^{-1}\mathbf{D}. \quad (4)$$

Let us assume that the matrix $\mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})$ is invertible. Then the system (4) can be written in the form

$$\mathbf{f}' = \mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})\mathbf{f} + \mathbf{A}^{-1}\mathbf{D}. \quad (5)$$

Let us assume that the matrix $\mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})$ is invertible. Then the system (5) can be written in the form

$$\mathbf{f}' = \mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})\mathbf{f} + \mathbf{A}^{-1}\mathbf{D}. \quad (6)$$

Let us assume that the matrix $\mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})$ is invertible. Then the system (6) can be written in the form

$$\mathbf{f}' = \mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})\mathbf{f} + \mathbf{A}^{-1}\mathbf{D}. \quad (7)$$

Let us assume that the matrix $\mathbf{A}^{-1}(\mathbf{B} - \mathbf{A}\mathbf{C})$ is invertible. Then the system (7) can be written in the form