

Tasks of Observations in Almost Conservative Dynamic Systems

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The work represents the investigations concerning the construction of observers for almost conservative dynamical systems. Due to the special form of matrices in the form of Cauchy, which is characteristic for almost conservative dynamical systems, the theory of solving the matrix equations of Lyapunov and Sylvester, Rikkati for almost conservative dynamical systems in the construction of observers was developed. This theory greatly simplifies the construction of observers for such systems. The results of research are algorithms that allow to build the observers in the analytical way. The theory is applied to the construction of observers motion blood in vessels (arterioles, venules, capillaries).

- [1] Lushchyk U.B., Novytsky V.V., *Some Aspects of the Applied Hemodynamics in the Epoch of the Intravital Visualising Technologies*, -translation from Russian into English., Kyiv, 2006.