Meeting: 1003, Atlanta, Georgia, SS 12A, AMS-SIAM Special Session on Stochastic, Large-Scale, and Hybrid Systems, I

1003-37-1651 **Matsyshyn Oleh*** (olehmat@ukr.net), 24 Serpny str.,30, 76006 Ivano-Frankovsk, Ukraine, and **Matsyshyn Oleh, Institut ecology technology, Ukrain** (olehmat@ukr.net). *Bifurcation of an orbit Homoclinic to saddle-focus in piecewise-linear systems*

We consider a class of dynamical system

$$y = Ay + f(x)(1)$$

$$x = \sigma$$

where x is a scalar,y is an n-vector,A is n x n constant matrix,f(x) is a scalar piecewise-linear function.We assume that the system (1)has an equilibrium point O at zero being a saddle-focus,i.e.the eigenvalues of the matrix

$$a + f^{/}(0)\sigma$$

satisfies Shilnikov's conditions.

The main result is the explicitely given conditions for the homoclinic orbit of the saddle-focus O,which covers two neighbor pieces of the function f. (Received September 06, 2004)