1065-34-79 **Maoan Han*** (mahan@shnu.edu.cn), Department of Mathematics, Shanghai Normal University, Shanghai, 200234, Peoples Rep of China. *Some studies on non-smooth systems.*

We consider a planar non-smooth system of the form

$$\dot{x} = f(x,y),\ \dot{y} = g(x,y), \quad x \neq 0,$$

where

$$(f(x,y), g(x,y)) = \begin{cases} (f^+(x,y), g^+(x,y)), & x > 0, \\ (f^-(x,y), g^-(x,y)), & x < 0, \end{cases}$$

and $f^\pm(x,y), g^\pm(x,y)$ are supposed to be C^ω functions. Then the two C^ω systems

$$\dot{x} = f^+(x,y), \quad \dot{y} = g^+(x,y),\ \ x > 0,$$

and

$$\dot{x} = f^-(x,y), \quad \dot{y} = g^-(x,y),\ \ x < 0,$$

are called the right and the left subsystem resp.. The flow $\varphi(t,A)$ of the full system can be defined by using the flows $\varphi^\pm(t,A)$ of the right subsystem and the left subsystem.

If

$$f(x,y) = H_y,\ g(x,y) = -H_x,\ x \neq 0,$$

where

$$H(x,y) = \begin{cases} H^+(x,y), & x > 0, \\ H^-(x,y), & x < 0, \end{cases}$$

and $H^{\pm}(x, y) \in C^{\omega}$ with $H^{\pm}(0, 0) = 0$, then it is called a piecewise Hamiltonian system.

We will introduce some recent studies on the limit cycle bifurcations for planar non-smooth systems, including piecewise Hamiltonian systems and near-Hamiltonian systems. (Received September 01, 2010)