```python
def Dense_Equation(t, theta_and_theta_dot):
    theta, theta_dot = theta_and_theta_dot
    theta_ddot = 1/A*(B*theta_dot-C*theta+D*np.sign(theta))
    return [theta_dot, theta_ddot]
```

D的符号也要更新

```python
def monitor(t, theta_and_theta_dot):
    theta, theta_dot = theta_and_theta_dot
    return theta
#monitor.terminal = True
monitor.direction = 0

t_span = [0, 0.5]
times = np.array([])
thetas = np.array([])
theta_dots = np.array([])
```

正负方向经过零点都被监测

```python
while True:
    sol = solve_ivp(Dense_Equation, t_span, theta_and_theta_dot_0, events=monitor, dense_output=True, max_step=0.05)
    print(sol)
    t = np.linspace(sol.t[0], sol.t[-1], num=100)
    theta_and_theta_dot = sol.sol(t)
    times = np.concatenate((times, t))
    thetas = np.concatenate((thetas, theta_and_theta_dot[0]))
    theta_dots = np.concatenate((theta_dots, theta_and_theta_dot[1]))

    if sol.status == 1:
        new_theta = 1e-5 * np.sign(theta_and_theta_dot_0[0])
        new_theta_dot = 2 * np.sign(theta_and_theta_dot_0[1])
        if times[-1] > 0.5:
            break
        theta_and_theta_dot_0 = [new_theta, new_theta_dot]
        t_span[0] = sol.t_events[0][0] - 1e-5
    else:
        break
```