#include <MPU6050\_light.h>

#include <Wire.h>

float alpha;

float alphav;

float U=0;

float Kpos=1;

float Kvitt=0.1;

float epsip;

float epsiv;

float Rm=3.15;

float Lm=0.0015;

float K=1.028;

float fm=0.16805;

MPU6050 centrale\_inertielle(Wire);

#define borneIN1 9 // On associe la borne "IN1" du L298N à la pin D9 de l'arduino

#define borneIN2 8 // On associe la borne "IN2" du L298N à la pin D8 de l'arduino

void setup() {

// put your setup code here, to run once:

Serial.begin(9600);

Serial.println("starting");

Wire.begin();

centrale\_inertielle.begin();

centrale\_inertielle.calcGyroOffsets(); //Calibrate gyroscope

pinMode(borneIN1,OUTPUT);

pinMode(borneIN2,OUTPUT);

Serial.println("fin de setup");

}

void loop() {

centrale\_inertielle.update();

// put your main code here, to run repeatedly:

alpha= centrale\_inertielle.getAngleX();

Serial.println(centrale\_inertielle.getAngleX());

alphav=centrale\_inertielle.getGyroX();

epsip=0-alpha;

epsiv=Kpos\*epsip-alphav;

U=Kvitt\*epsiv;

if (U>12){U=12;}

if (U<-12){U=-12;}

U=floor(U\*255/12);

Serial.println(U);

if (U<0){

analogWrite(borneIN1, abs(U));

analogWrite(borneIN2,0);

}

if (U>0){

analogWrite(borneIN1, 0);

analogWrite(borneIN2, abs(U));

}

}