

电机实验二

无刷直流电机特性试验

正转及反转代码

pwm1.CmtnPointer表示当前绕组电流的方向（0~5）

hall1.HallGpioAccepted == 5 当前转子所处位置经由霍尔传感器反馈为第五扇区

```
1  #if MOTOR_DIR == 0 //正转
2  // Comment the following if-else-if statements in case of
3  // non-inverted Hall logics for commutation states.
4      if (hall1.HallGpioAccepted == 2)
5          pwm1.CmtnPointer = 0;
6
7      else if (hall1.HallGpioAccepted == 6)
8          pwm1.CmtnPointer = 1;
9
10     else if (hall1.HallGpioAccepted == 4)
11         pwm1.CmtnPointer = 2;
12
13     else if (hall1.HallGpioAccepted == 5)
14         pwm1.CmtnPointer = 3;
15
16     else if (hall1.HallGpioAccepted == 1)
17         pwm1.CmtnPointer = 4;
18
19     else if (hall1.HallGpioAccepted == 3)
20         pwm1.CmtnPointer = 5;
21 #elif MOTOR_DIR == 1 //（反转）
22 // Comment the following if-else-if statements in case of
23 // inverted Hall logics for commutation states.
24     if (hall1.HallGpioAccepted == 1)
25         pwm1.CmtnPointer = 3;
26
27     else if (hall1.HallGpioAccepted == 5)
28         pwm1.CmtnPointer = 2;
29
30     else if (hall1.HallGpioAccepted == 4)
31         pwm1.CmtnPointer = 1;
32
33     else if (hall1.HallGpioAccepted == 6)
34         pwm1.CmtnPointer = 0;
35
36     else if (hall1.HallGpioAccepted == 2)
37         pwm1.CmtnPointer = 5;
38
39     else if (hall1.HallGpioAccepted == 3)
40         pwm1.CmtnPointer = 4;
41 #endif
42
```

正转扇区顺序	2	6	4	5	1	3
绕组电流方向	A^-B	A^-C	B^-C	B^-A	C^-A	C^-B
绕组电流方向对应的编码	0	1	2	3	4	5
反转扇区顺序	1	5	4	6	2	3
绕组电流方向	B^-A	B^-C	A^-C	A^-B	C^-B	C^-A
绕组电流方向对应的编码	3	2	1	0	5	4

```

1  实验二
2
3  #define PARK_MACRO(v)                                \
4                                          \
5      v.Ds = _IQmpy(v.Alpha,v.Cosine) + _IQmpy(v.Beta,v.Sine); \
6      v.Qs = _IQmpy(v.Beta,v.Cosine) - _IQmpy(v.Alpha,v.Sine); \
7
8  #endif // __PARK_H__
9
10
11
12
13 #define CLARKE_MACRO(v)                                \
14                                          \
15 v.Alpha = v.As;                                         \
16 v.Beta = _IQmpy((v.As + _IQmpy2(v.Bs)),_IQ(0.57735026918963)); \
17
18 // 1/sqrt(3) = 0.57735026918963
19
20 #endif // __CLARKE_H__

```