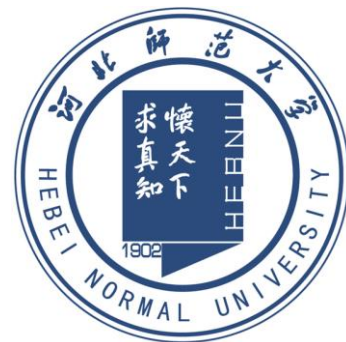


程控电源的性能测试及长期运行稳定性监测

张少如

河北师范大学



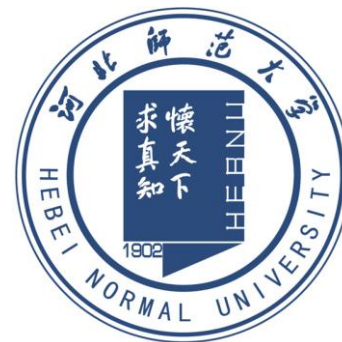
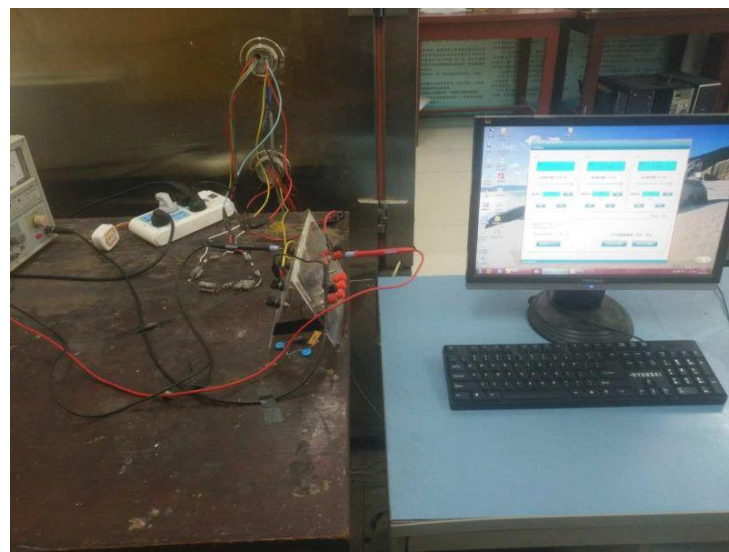
内容

程控电源及性能

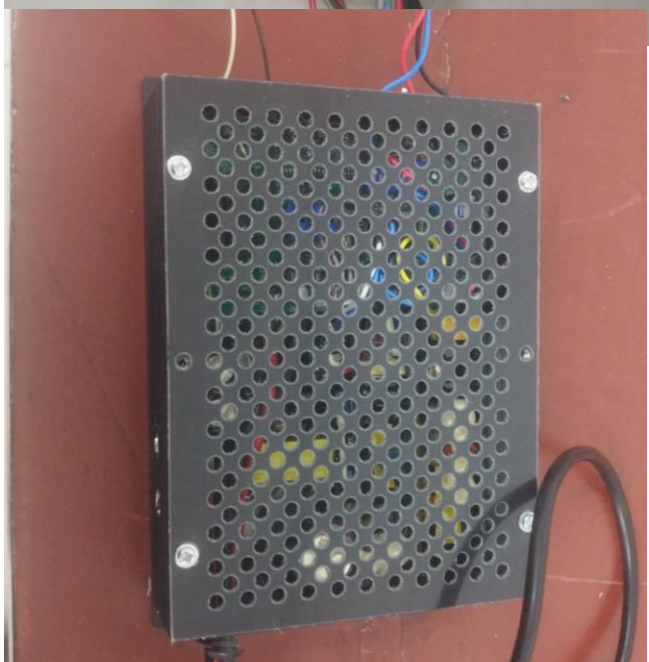
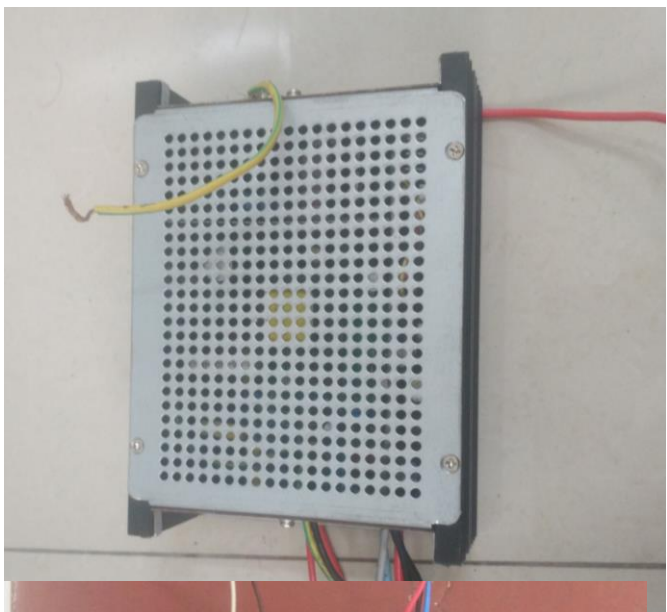
长期监测

其他电源测试情况

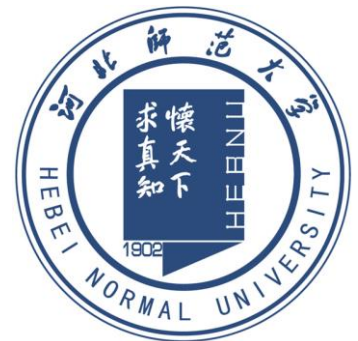
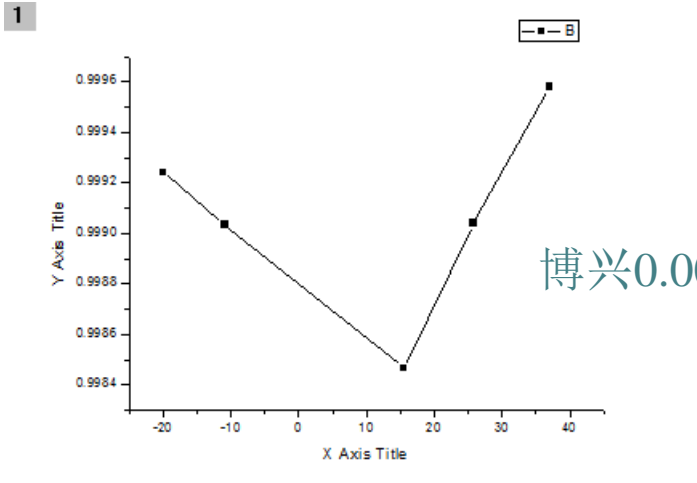
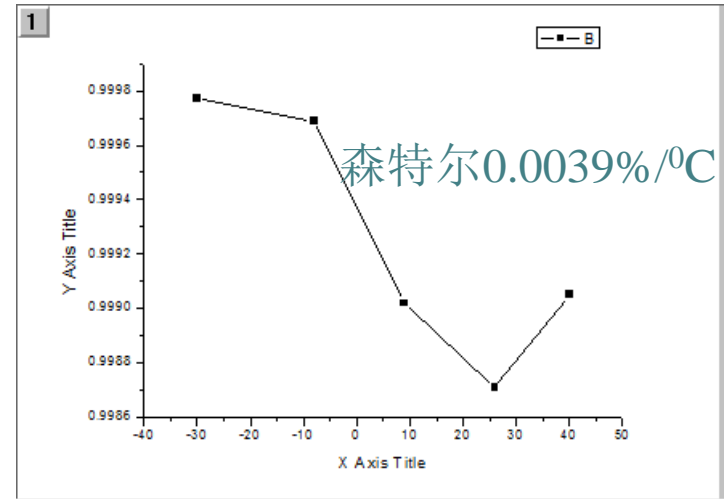
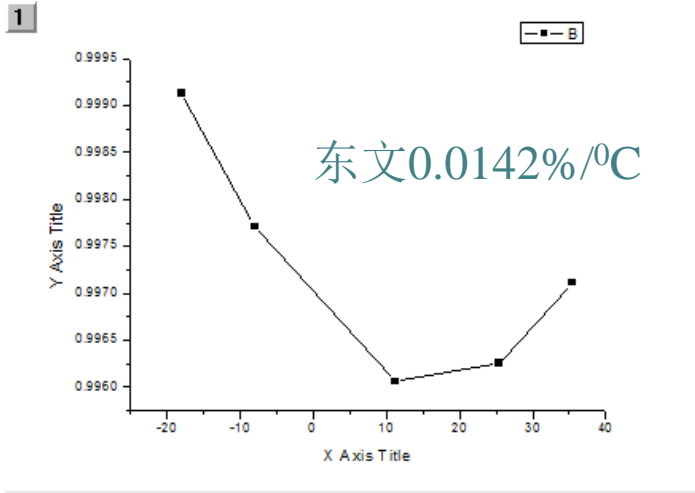
总结与展望



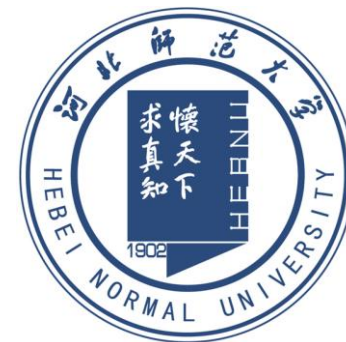
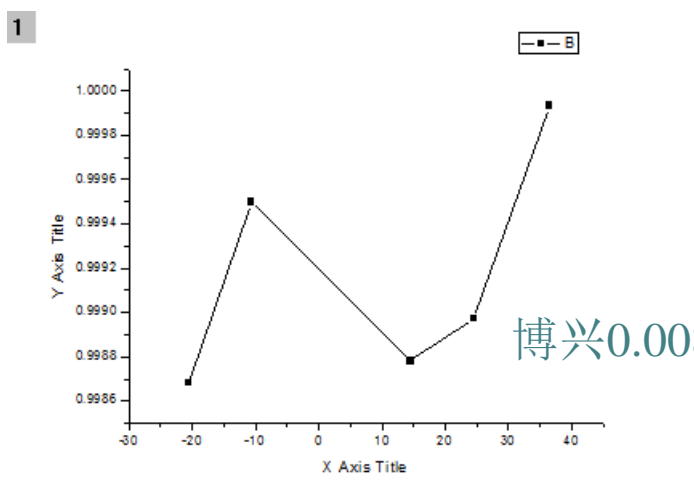
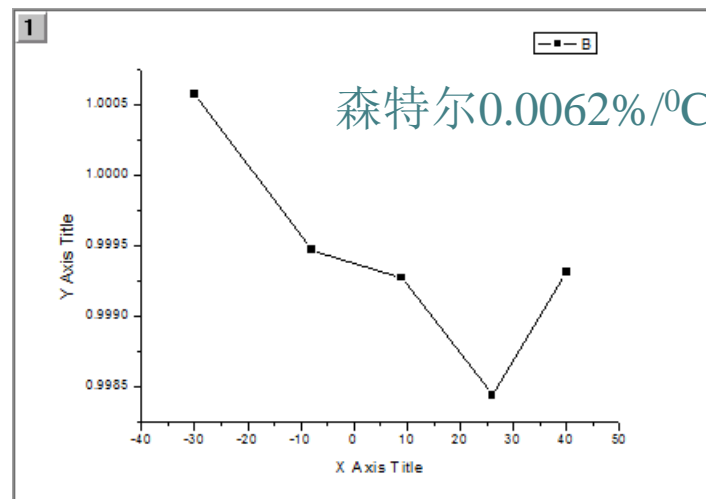
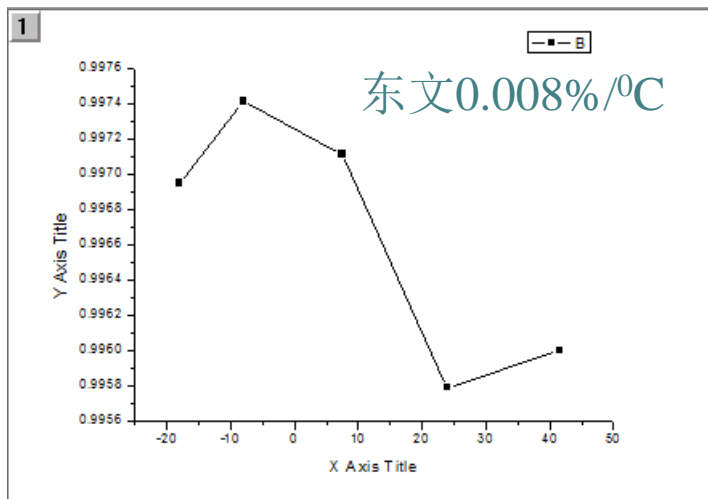
程控电源



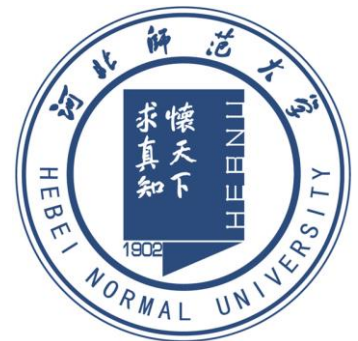
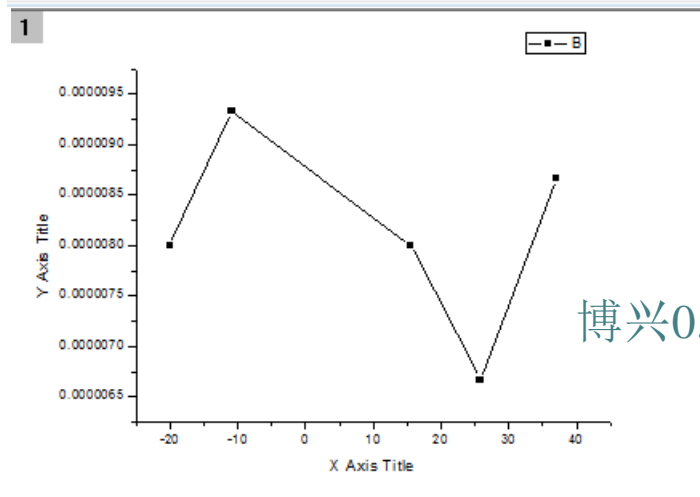
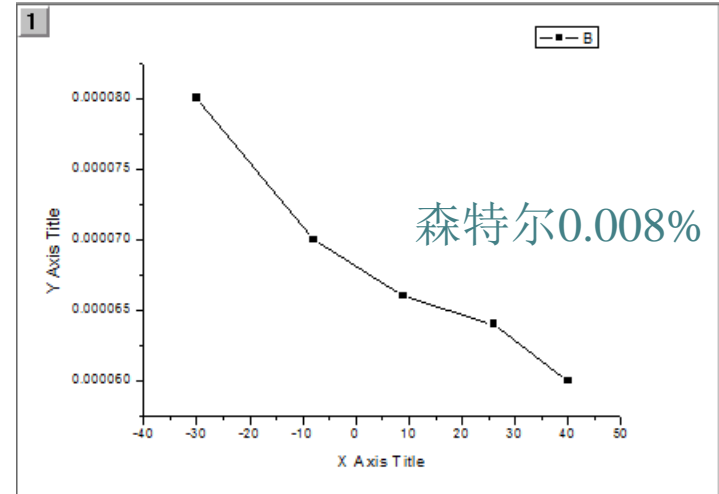
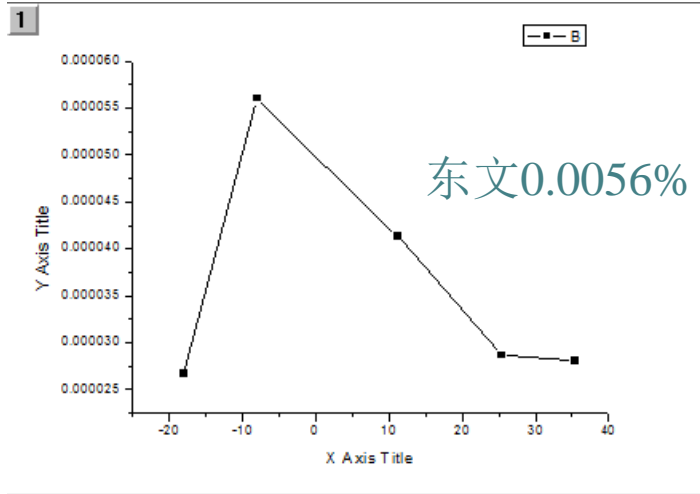
电源性能-温度系数-常压



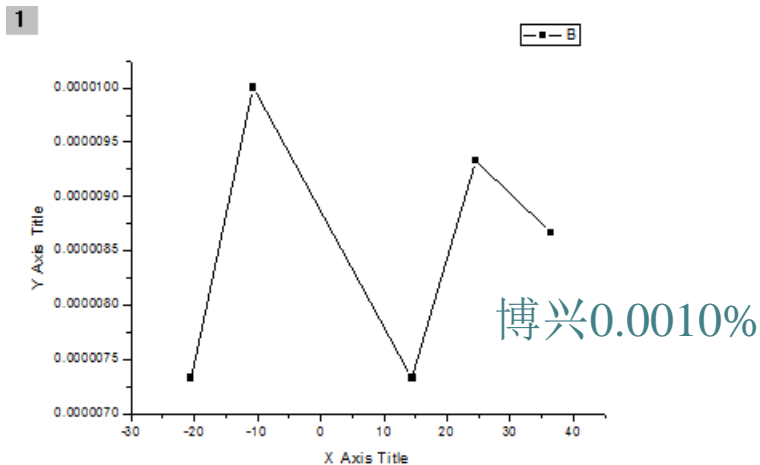
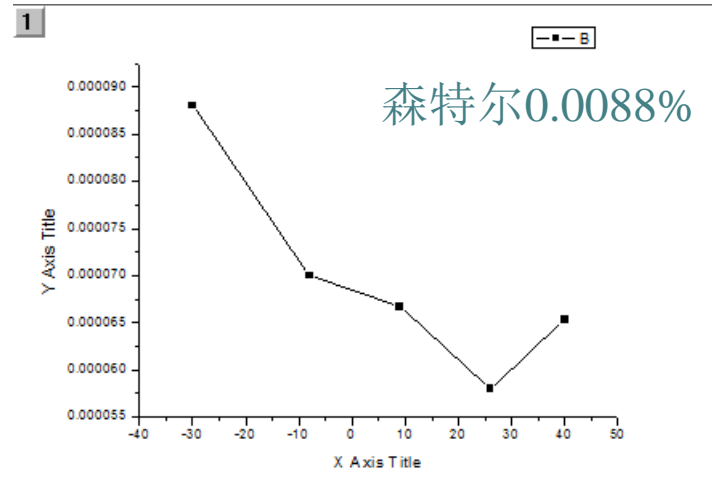
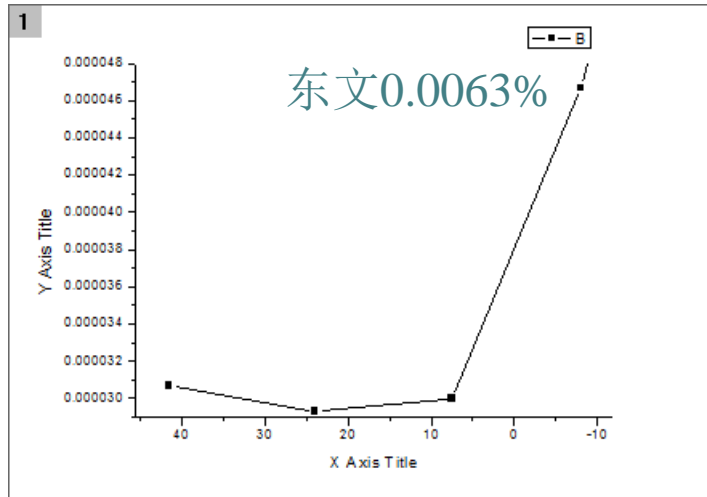
电源性能-温度系数-真空



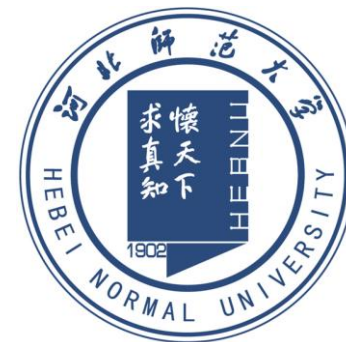
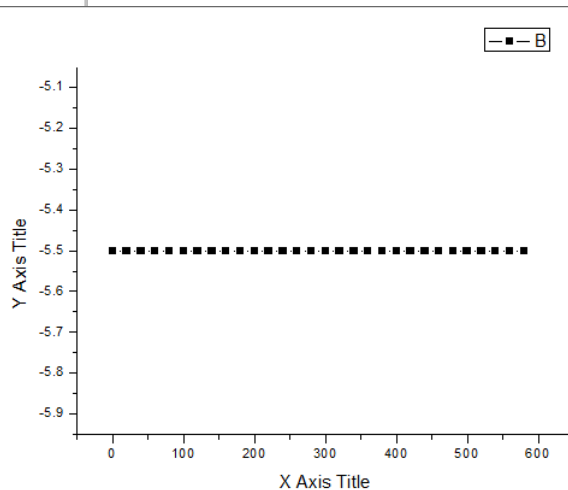
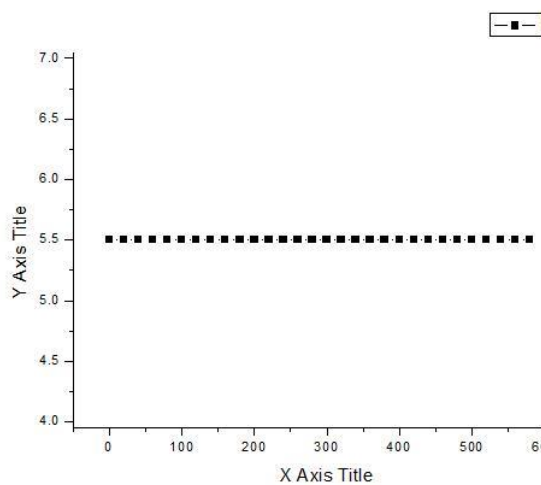
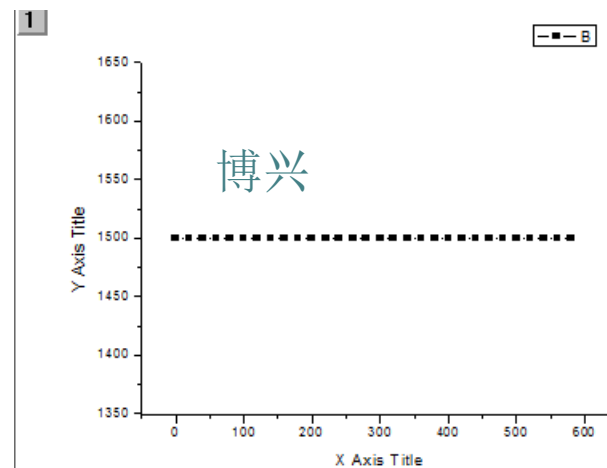
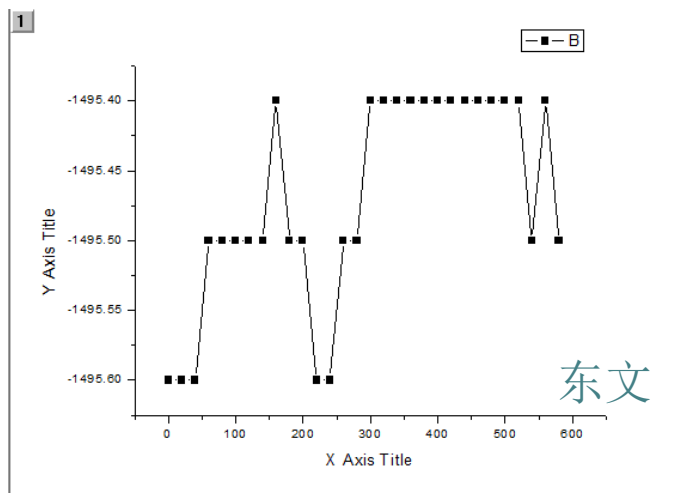
电源性能-纹波-常压



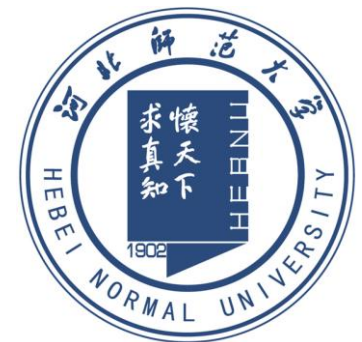
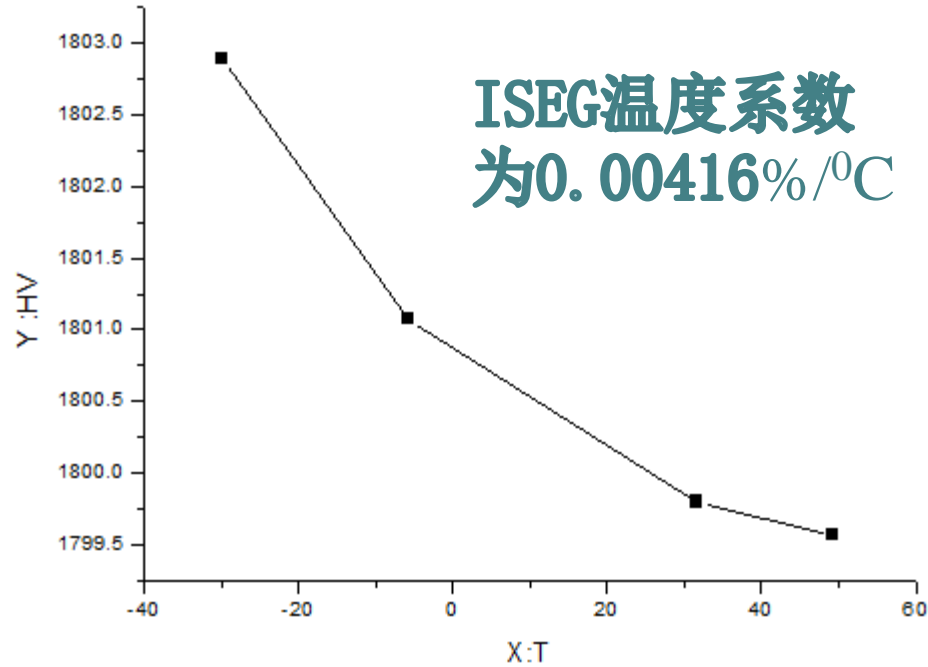
电源性能-纹波-真空



长期监测



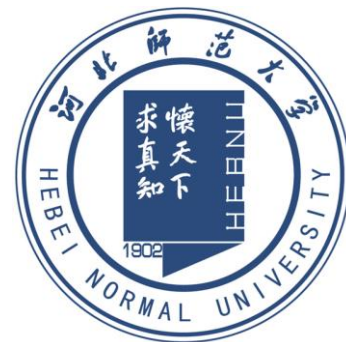
其他电源情况-ISEG



其他电源情况-德国电源

电源刚开始从600伏工作时，一切正常，运行稳定。

当在900伏进行电压测量时，变压器开始发出刺耳的响声。通信消失，电源失去控制，电压波动无规律。此时对电源进行断电操作后，重新上电，电源恢复工作，当电压升到900伏时，重复上述故障。800V电源能够正常工作，甚至895V都能，就是一上900V，就开始故障。

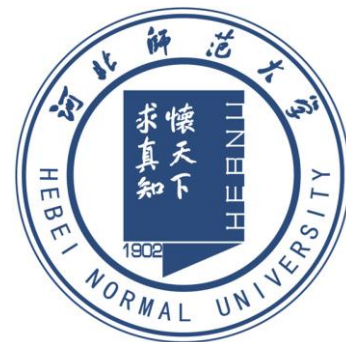


电源效率

设定值 (V)	5.5	-5.5	1500	供电电压
电阻 (Ω)	1.6	13.8	9.85M	—
实测电压 (V)	5.30	-5.61	1500	225
实测电流 (A)	3.84	0.41	0.000124	0.142
功率 (W)	20.352	2.3001	0.186	31.95
效率	71.48%			

总结与展望

1. 现在的几家电源基本能满足需要
2. 继续调研老化实验，设计电源老化试验的测试方法
3. 团队自己做一块程控电源，研究提高性能指标的方法，提高电源的转换效率，为项目的长期运行积累维护或维修经验。



谢谢大家!

