南京邮电大学
Nanjing University of Post & Telecom

物理实验教学中心

Physics Expeiment Center

Wheatstone Bridge

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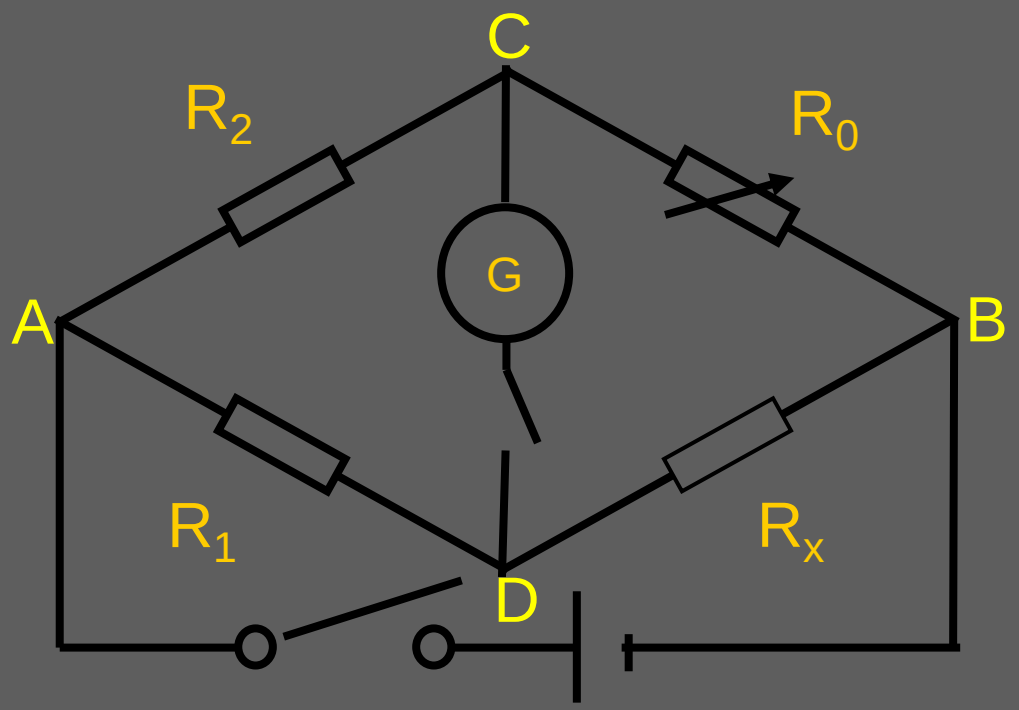
NJUPT

I. Purposes

1. The structure and measurement principles of Wheatstone Bridge.

2. Build the circuit and handle the method of measuring resistance.

Ⅱ. Principles



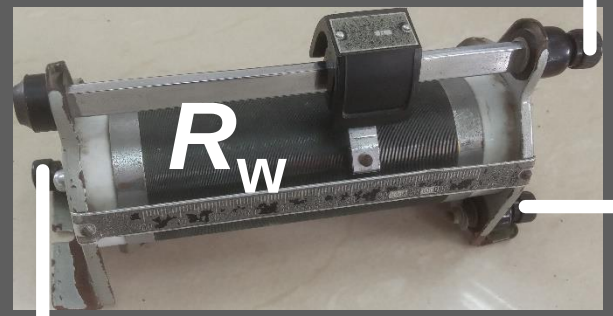
If I_G=0, $R_x = \frac{R_1}{R_2} R_0$

Bridge sensitivity: $S=\Delta n/(\Delta R_0/R_0)$

Circuit

B

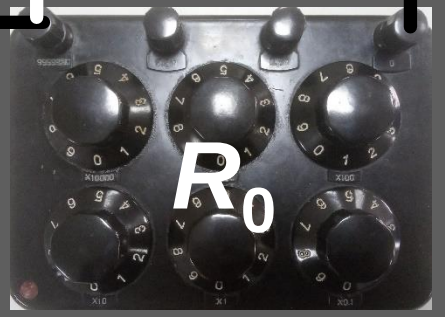
C



Galvanometer

A

D



Source


-00.0327

Table I

R	R_1/Ω	R_2/Ω	R_0/Ω	R_{x1}/Ω
1	100.0	1000.0	302.9	
2	100.0	2000.0	602.9	

Table II

R	R_1/Ω	R_2/Ω	R_0/Ω	R_{x2}/Ω
1	1000.0	1000.0	1475.5	
2	1000.0	2000.0	2945.5	

END