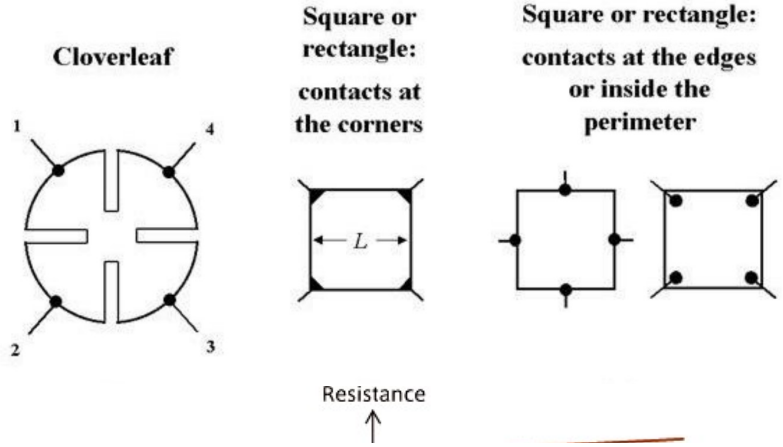
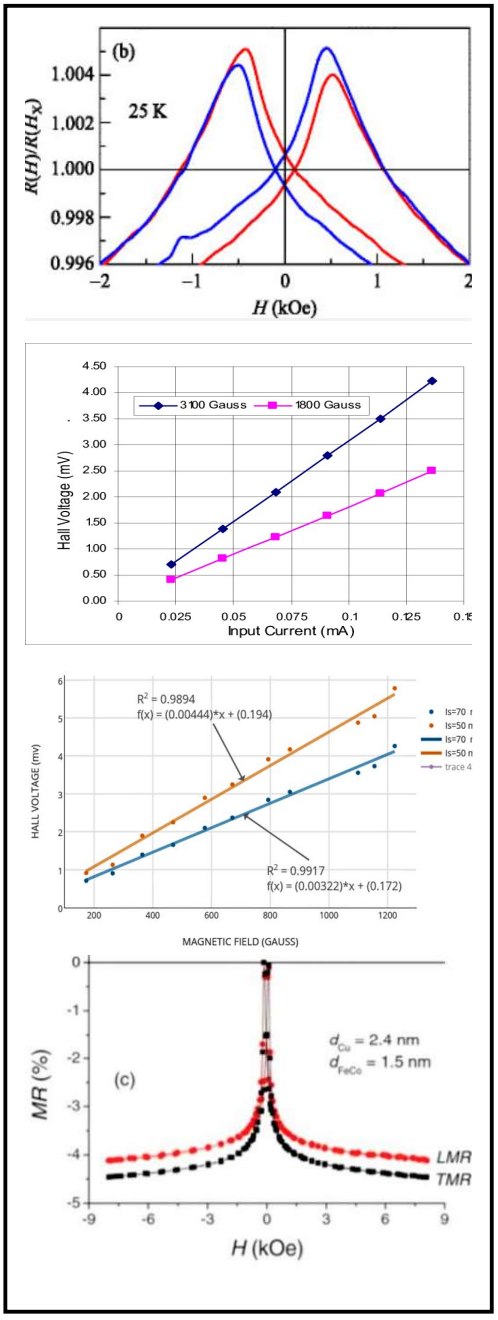
VAN DER PAUW MEASUREMENT SYSTEM





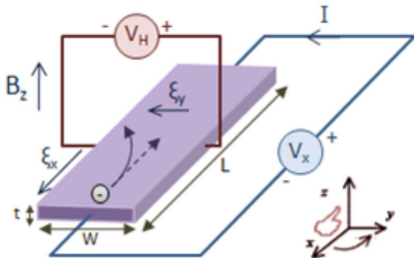
ABOUT THE SYSTEM

The **van der Pauw Method** is a technique commonly used to measure the resistivity and the Hall coefficient of a sample. Its power lies in its ability to accurately measure the properties of a sample of any arbitrary shape, as long as the sample is approximately two-dimensional, solid (no holes), and the electrodes are placed on its perimeter. The van der Pauw method employs a four-point probe placed around the perimeter of the sample, in contrast to the linear four-point probe. This allows the van der Pauw method to provide an average resistivity of the sample, whereas a linear array provides the resistivity in the sensing direction. This difference becomes important for anisotropic materials, which can be properly measured using the Montgomery Method, an extension of the van der Pauw method The Van Der Pauw is designed by our company are most advanced in its specifications and can undertake various tests needed by researchers. The complete system is fully automatic with temperature variation and can go down as low as liquid nitrogen. The system also has option to go beyond room temperature with high temperature options in them same sample holder such as 273K & 573K.

MODEL: VP818

Various Tests Performed by this Model

- Magneto resistance measurement
- Current vs Voltage at various magnetic field
- Hall voltage vs Magnetic field



VAN DER PAUW MEASUREMENT SYSTEM

TECHNICAL SPECIFICATION

The Advance Van Der Pauw test software perform important functions of the measurement automatically without any human interventions. Following are highlights of important functions:

- Simultaneous measurement of Magnetic field and Magneto Resistance.
- Automatic measurement of Voltage/ Current and Temperature under varying magnetic field.
- Representation of data and graphs in automatic scale.
- Online math work for different calculations using sample dimensions to calculate MR.
- Data in standard ASCII Format exportable to standard software's like excel origin etc.

Electromagnet	**1.5T /1.8T**
Magnetic Field	Field 1.5/1.8 Tesla
Field Resolution	10 Gauss in 2 Tesla Range
Measurement	Four Quadrant
Measurement Options	**2182A&6220/2450**
Voltage Range	10 nV – 100 V/20mV-200V
Resolution	0.1 nV/10nV
Current Range	± 2nA to ±100mA/± 10nA to ±1A
Accuracy	0.04 to 0.1 %/0.012%
Magneto Resistance Range	0.01mΩ - 1TΩ/0.1mΩ – 20GΩ
Measurement	**Range 2182A&6220/2450**
DC Resistivity	$1X10^{-5}$ to $1X10^{5}$ Ω cm/ $1X10^{-4}$ to $1X10^{4}$ Ω cm
Mobility	1 to 1 10^{6} cm^2/v s / 1 to 1 10^{6} cm^2/v s
Carrier Concentration Density	8 X 10^{2} to 8 X 10^{23} cm^{-3}
Minimum Current Source	1nA/10nA
Minimum Voltage Source	10nA/100nV
Measurement	Two/Four Probe
Temperature Stage	**100RT**
Temperature range	96°K – 573°K
Resolution	0.1°K
Accuracy	1°K
Control	PID Controller
Heating Stage	DC Thyristor
Test Specimen	**Two/Four Probe**
Sample Dimension	8X8 mm
Thickness (Bulk)	0.1mm to 1mm
Thickness (Film)	10µm to 100µm
For detailed specification, please refer to respective brochures	

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