SEEBECK MEASUREMENT SYSTEM

ZEM3 M10 simultaneous Seebeck and electrical resistivity measurement system:

ZEM 3 M10 is capable of carrying out simultaneous measurements of Seebeck coefficient and electrical resistivity of thermoelectric materials with high reproducibility. It can measure a wide range of samples including semiconductors, oxides and metals at a temperature range between 50 ^{o}C to 1000 ^{o}C.

The sample holder uses a unique balance contact mechanism, permitting measurement of high reproducibility. V-I plot measurement can be made to judge if the lead is in intimate contact with a set sample. The system automatically examines whether the contact of the probes with a sample ohmic or not, and finds and uses the best value of electric current to determine the resistivity of the sample without influence of heat transfer.Measurement is controlled by a computer, permitting automatic measurement with each temperature difference at a specified temperature and elimination of dark electromotive force.

Measurement technique Seebeck Coefficient: Static DC method

Electric Resistance: Four- Probe method

PSG INSTITUTE OF ADVANCED STUDIES

Rules and Charges for using Simultaneous Seebeck coefficient and electrical conductivity measurement System

1. Simultaneous Seebeck coefficient and electrical conductivity measurement Systemcan be availed only on charge basis.
2. Prior registration with advance payment is essential to avail these facilities.
3. Appointment will be given as per queue and allotted time for the slot will be informed through e-Mail.
4. User should clearly mention in the form if he/she wants to use room temperature Seebeck measurement or temperature dependent Seebeck measurement system and charges will vary accordingly.
5. Sample size requirements: 2 to 4 mm square or diameter ~ 5 to 22 mm long.
   Temperature range capability: 50ºC to 1000ºC
6. Charges for utilizing Simultaneous Seebeck coefficient and electrical conductivity measurement system are as follows:

		Charges In Rupees(18% GST added extra)		
Facility	No of samples	Internal	External	Industry
Room temperature Simultaneous Seebeck coefficientand electrical conductivity measurement System	1	1000/-	1500/-	2500/-
High temperature Simultaneous See beck coefficient and electrical conductivity measurement System	1	1000 + 1000/- (every hour)	1500 + 1000/- (every hour)	2500 + 1000/- (every hour)

7. External colleges & Universities and industry users should pay the charges in advance before the work is taken up.
8. No refund of payment will be made in any case.

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The expense, in case of any damage to the instrument on violation of rules has to be borne by the facility user.