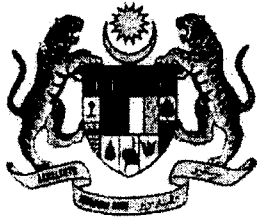




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2.3 Country Report

Progress In Small Angle Neutron Scattering Activities in Malaysia

Presented at

**Workshop on Utilisation of Research Reactors and Sub-
Workshop on Neutron Scattering
Tokai, Mito, Japan
29 Nov - 2 Dec 1999**

Organised by

**Japan Science and Technology Agency (STA)/Japan
Atomic Energy Research Institute (JAERI)**

1 Introduction

This report highlights activities that have been carried out in 1999, since the last report was presented in BATAN February 1999. Two main areas are presented, namely, facility upgrading and data treatment activities.

2 Facility Upgrading

“Window” style input dialogue and output display has been developed; the system is running in MSDOS 6.1 version. Programs include the displaying of scattered neutron data in two or three dimensional isometric view and the user data acquisition control parameters input. Visual Basic is utilised for data acquisition and MathCad for data processing and analyses.

3 Data Analysis

The SANS facilities is still under maintenance. Thus, modelling of scattering intensities which was started in early March is on going work. The hard sphere particles model is currently under investigation and application is now on degradation in alloy.

4 Problem Currently Solved

- a) Repairing all vacuum pumps and verification tests have shown that their vacuum characteristic is reached to the designated level.

5 Conclusion

The current status of SANS activities for 1999 has been presented. Many works need to be done for system improvement before the facility can be fully utilised as one of the effective quality control tools in materials production sectors.

Organisation Interested in SANS

National University of Malaysia (UKM), Bangi,

Tenaga Nasional Berhad (TNB)

Institute Technology Mara (ITM), Shah Alam.

Table Summary on 1999 activities

No	Item	Time	Remark
1	Discussion on natural rubber sample preparation with MINT polymer group	April 99	No experience Cost fairly high
2	Vacuum pumps maintenance and verification of pumping capability Primary and Secondary tubes maintenance.	October 99 October 99	Completed Postponed due to lack of budget
3	Upgrading MathCad Programming software	Nov 99	Completed

Table Year 2000 Tentative Programme

No	Item	Remarks
1	Primary and Secondary tubes maintenance.	Expected to complete by April
2	Discussion and formation small laboratory on SANS sample (i.e. polymer and metallic materials) preparation with MINT polymer and metallurgy groups	Expected to fabricate sample by August
3	Upgrading cards to Y2K compliance	Expected by October
4	Modeling of metallic alloys using a multiple scattering method	Start Jan

Table Work Plan 2000-2003

Year	Focussed areas	Remarks
2000	Repairing, verification and calibration of instrument; establish sample preparation facility and working on new model. Polymer study (i.e. natural rubber based)	request for more grants from various available sources
2001	SANS application in failure analysis	support from materials study group
2002	SANS application in composite materials	support from local industries
2003	SANS application in bio-materials	support from material (bio-material) study