



*The National Meeting on
the Applications of Synchrotron Light Sources*

Chulalongkorn University

Bangkok, Thailand

7 November 1994

Organized by

Forum for Theoretical Science (FTS)

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Introduction

Synchrotron Radiation is now a well-established light source which covers the wide energy range from infra-red to x-rays. It has been increasingly used in various research fields of science and technology in the last thirty years. Rapid growth in the number of the Synchrotron Radiation users has prompted the construction of new storage rings with higher quality. At present, there are 41 SR facilities distributed among 15 countries.

On the other hand, several Synchrotron Radiation facilities have been constructed or are under construction in other Asian countries. BESYL (2.8 GeV) in Beijing, NSRL (0.8 GeV) in Hefei, China are in operation and SRRC in Hsinchu, Taiwan has just started operation. PLS (2.0 GeV) in Pohang, Korea and INDUS (0.4 GeV) in Indore, India are close to the completion of construction. Australia has its own beamline in the Photon

Factory and Thailand is now searching the possibility of constructing a storage ring. Given its size, population and level of economic development. Thailand has the potential to be the next Asian country to have a SR facility.

During the last ten years, Thailand has had an economic growth rate of about 10% per year in its GNP. However, an excellent growth rate such as this can not last long because Thailand lacks a firm foundation in such basic science as Mathematics, Physics, Chemistry etc. which form a basis of the high technology developing in our modern world.

The National Research Council of Thailand (NRC) recognizes the importance of raising the level of the basic sciences to stay abreast of the developments in high technology throughout the world. As a result, on 4 August 1993, the Mathematics and Physical Science section of the NRC approved a proposal of carrying out a feasibility study for building on SR facility.

On 29 January 1994 a full day discussion on planning the conceptual design proposal was held. After an extensive introduction by Prof. Virulh Sa-yakanit on the groups Asian trip and a videotape of the Taiwan opening ceremony, the audience had a good idea of the situation. In the afternoon, a detailed discussion was held. At the conclusion of the meeting it was decided that we may be able to construct a Synchrotron, its energy should be approximately 1 to 1.3 GeV, it should be linear and its location was narrowed down to two sites. One possibility was the newly built Atomic Research for Peace Center at Nakhon Nayok which is about 70 km from Bangkok. The other possibility is about 40 km from Bangkok on Klong 10. the final decision taken was that the budget must be flexible, the project must be considered by the government as a national laboratory.

The *National Meeting on the Application of Synchrotron Lights Sources* was proposed to promote information exchange and to discuss common issue of Synchrotron Radiation facilities and aimed at the future collaboration in Synchrotron Radiation Science and Technology of the countries.

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| 3. Prof. Iwasaki | Japan |
| 4. Prof. Tong Nyong Lee | Republic of Korea |
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National Research Council of Thailand (NRC)
Research Affairs, Chulalongkorn University

Scientific Program

The Conference Hall
Main Auditorium, Chulalongkorn University

Monday 7 November 1994

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|---------------|---|
| 08.30 - 09.00 | - Opening Ceremony |
| | - Report presented by Prof. Virulh Sa-yakanit (Chairman of the Organizing Committee) |
| | - Opening remarks by Prof. Dr. Sippanondha Ketudat |
| | - Chairman: Dr. Kopr Kritayakirana |
| 09.00 - 10.00 | - <i>Overview of Synchrotron Radiation Properties and Facilities</i> |
| | Prof. Herman Winick, SLAC, Stanford, USA |
| 10.00 - 10.15 | - Coffee Break |
| 10.15 - 10.45 | - Chairman: Dr. Wirojana Tantraporn |
| | - <i>Lattices for Storage Ring Synchrotron Radiation Sources</i> |
| | Prof. Max Cornacchia, SLAC, Stanford, USA |
| 10.45 - 11.15 | - <i>RF System for Electron Storage Rings</i> |
| | Prof. Matthew Allen, SLAC, Stanford, USA |
| 11.15 - 12.00 | - <i>Scientific and Technological Applications of Synchrotron Radiation</i> |
| | Prof. Boris W. Batterman, Cornell, USA |
| 12.00 - 13.30 | - Lunch |
| 13.30 - 15.30 | - Group Discussions |
| 15.30 - 15.45 | - Coffee Break |
| 15.45 - 16.30 | - Discussions and Conclusions |
| 16.30 | - Closing remarks |