

Liquid Scintillation LS

- Key Technique in Joint Research and Training -

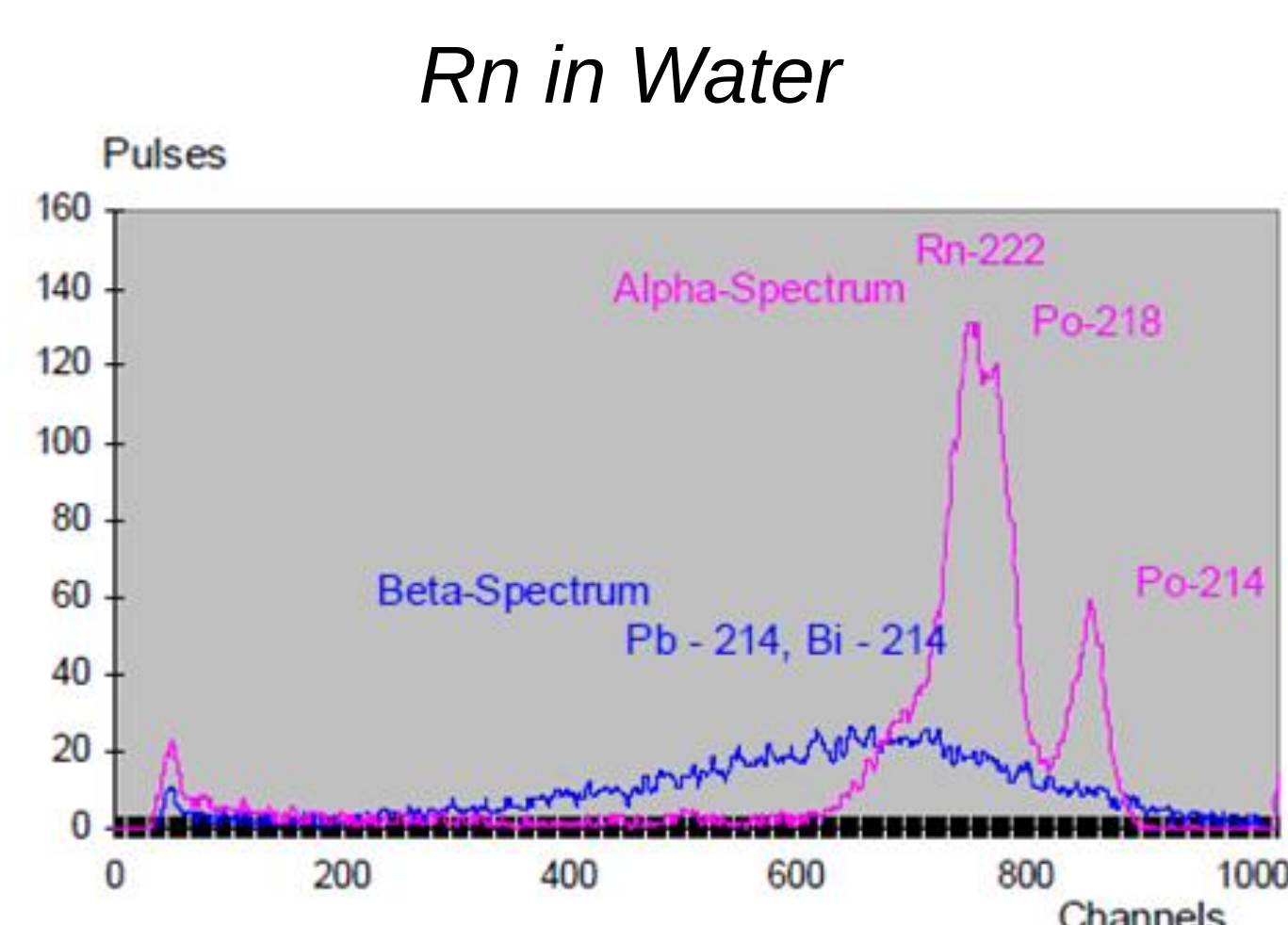
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formerly FTU/KIT and International Seminar of Karlsruhe University

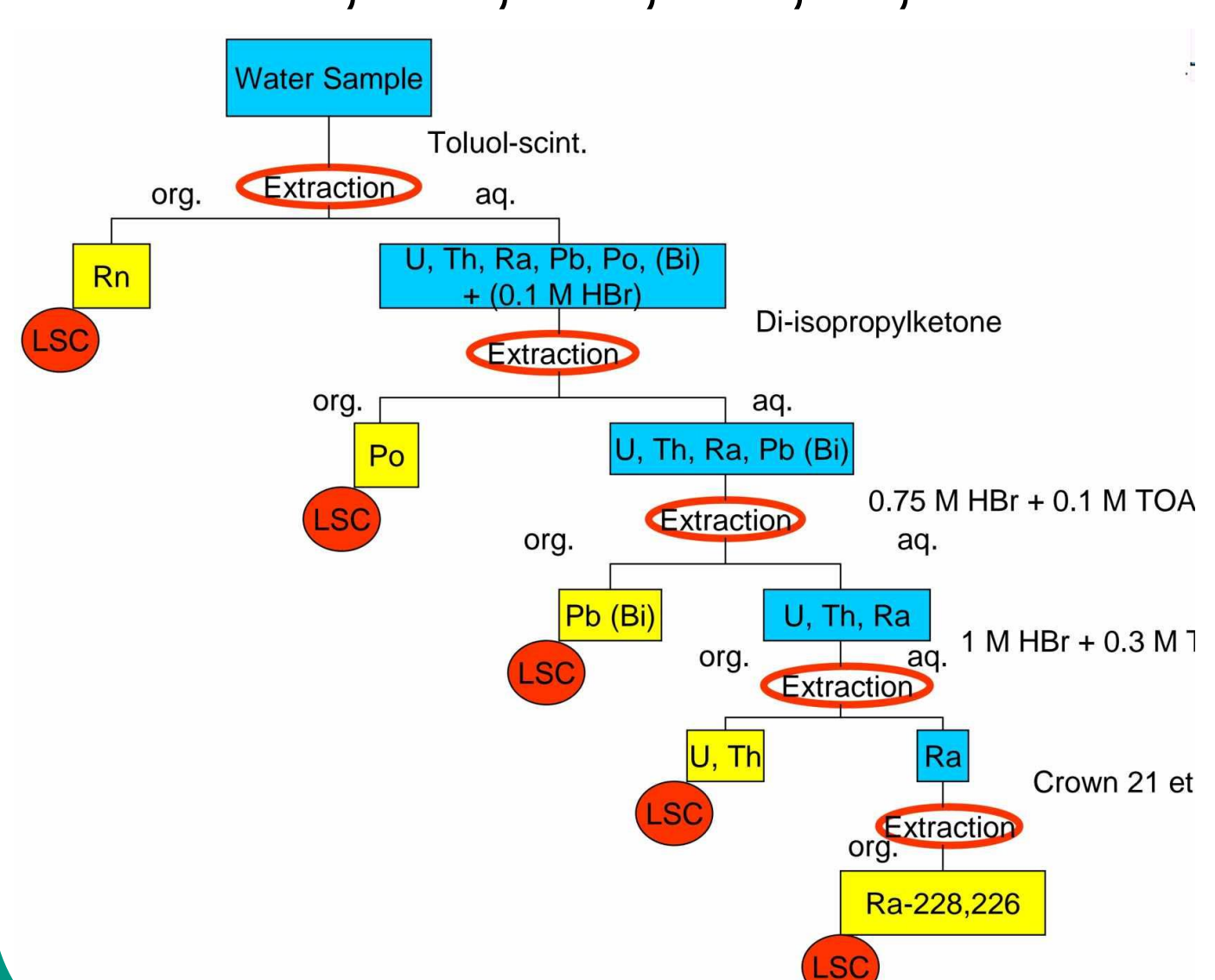
Key Topics in Research

➤ Electronical Pulse Shape Discrimination PSD

Discrimination between α - and β/γ - radiation applies the pulse shape discrimination. PSD makes use of the longer time duration of α -pulses for their electronical separation.



➤ Combination of Extractive Scintillators = Homogeneous Solution of Scintillators + Organic Solution + Extractive Agent for Rn, Ra, Po, Pb, U, Th and α -emitters in NPP's



LS Training

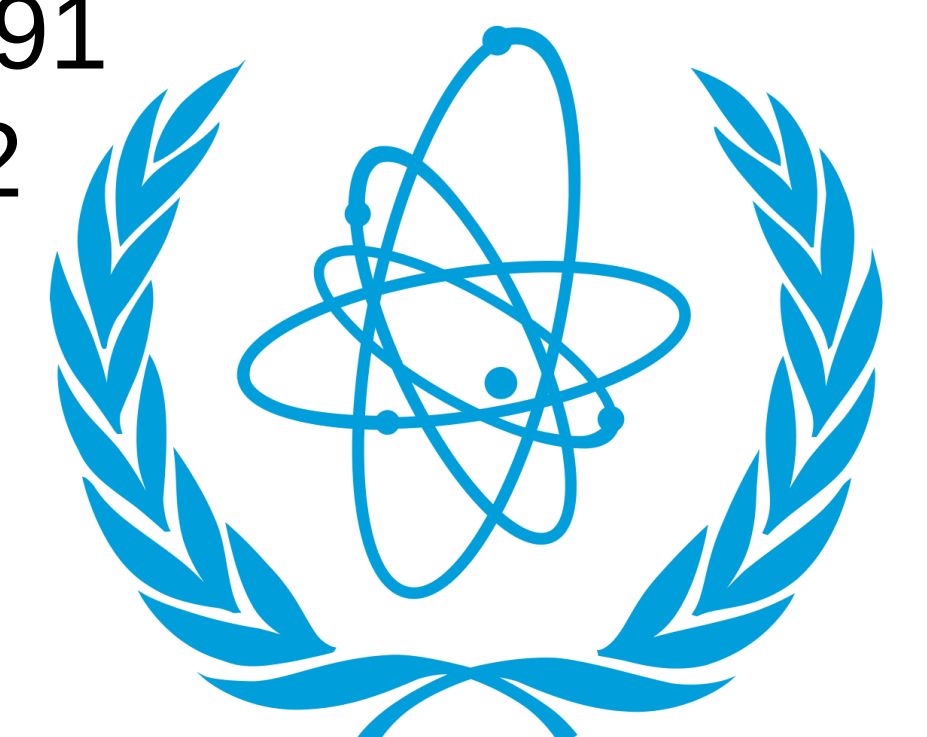
DAAD ¹⁾

- TC CMU Chiang Mai 1987
- TC UFPE Recife 1979
- TC IPEN Lima 1984



IAEA ²⁾

- TC National CMU 1988/1989 Chiang Mai
- TC Regional CMU 1997 Chiang Mai
- INET/Tsinghua National Beijing 1991
- Expertise/TC OAEP Bangkok 2012
- Expertise AEB Colombo 2017



DGFS ³⁾

- Workshop Regional Karlsruhe 2004
- TC IRD/NAMLS Rio de Janeiro 2005
- TC SPERA Brisbane 2010
- TC Antsirana Univ. 2016



- 1) German Academic Exchange Service
- 2) International Atomic Energy Agency
- 3) German Society for Liquid Scintillation

Partners and Participants

CMU ¹⁾ Chiang Mai University TH

INET ²⁾ Nuclear Energy Institute, Tsinghua U. CN

CNEN ³⁾ Commissao Nacional de Energia Nuclear BR

INSTN ⁴⁾ Institut National des Sciences et Techniques Nucléaires MG

1) Udom Sriyotha 1965

Kate Grudpan 1984, 2000 etc
OrnAnong NaLamphun 1986
Poonsak Kamolchote 1989
Wongsuda Roeksbutr 1991
Wanida Jongjisok 1994

2) Dazhu Yang 1988
Mingde Yang 1990
Jiao Rongzhou
Yongjun Zhu; Jingming Xu
Giuping Wang

3) Carlos Costa Dantas 1965, 2000
Irene B. de Alleluia 1976, 2000
Dejanira Lauria 1987

4) Tiana Ramamonjisoa 1993
Lucien Zafimanjato 1995
Tina Rakotoarisoa
Hanitra Rakotomanga

DGFS Publications

Advances in Liquid Scintillation Spectrometry 1992, 1994, 2001, 2005, 2008, 2010, 2013, 2017, 2020

Extractive Scintillation and Pulse Shape Analysis in α -assay (Möbius, Kamolchote, Roeksbutr) The Science of the Total Environment 1993, 1995

Simultaneous determination of α - and β -nuclides by LSC (Yang, Zhu, Möbius, Keller) J. Radioanal. Nucl. Chem, Letters 1990

Rapid method for α -counting with extractive scintillator and PSD (Yang, Zhu, Möbius) J. Radioanal. Nucl. Chem, Articles 1991 and others

Liquid Scintillation - Measuring Procedures, New Developments (Siegurd Moebius et al.) 3rd Ed. 2024; as well as e-book by HIDEX available