Collaborating with Takeshi Kodama

RANP 2013
September/2013
Rio de Janeiro

Y. Hama

I would like to thank Wei-Liang Qian and Sandra Padula for editing the presentation
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**Good training** (also everyday now)
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Good training (also everyday now)

Wide knowledge in physics
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Recommended by Prof. Y. Fujimoto, invited by Prof. C. Lattes and Prof. A. Marques
In harmony, he quickly adapted himself to local customs.
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In harmony, he quickly adapted himself to local customs.

This ability and generosity to accept people of different origins and customs, without losing his spirit of samurai, made him an excellent collaborator.
Rio – São Paulo Collaboration

Preliminary

PhD thesis supervision of
Paulo Pascholati

Espectro retardado de raios beta em fragmentos de fissão do $^{235}$U (1973)

One day in 1988, he appeared in my office, bringing a manuscript on Coulomb excitation.

- There were some discrepancy between their results and the data.
- For me, the data have not been obtained correctly, because the increase in hadronic cross-section has not been considered.

Rio – São Paulo Collaboration

First meeting with Takeshi

We also discussed in that occasion necessity to make a joint project on high-energy heavy-ion physics between Rio de Janeiro and São Paulo, gathering all the people who were working on this topic, some of them having independent international contacts.

• One of the activities we wanted to include in the project was periodic workshops of the group (~twice a year), where every participant, comprising students, could talk about what he is doing.

This series of meeting has been called, following Fernando Navarra, RETINHA (Hadron Physics Workshop).

This is one of many meetings Takeshi participated in the organization.
1st. meeting

• **Date:** 02-04/May/1990
• **Local:** IF-USP*
• **Participants:** 18

*chosen for financial reasons:

No money in São Paulo for locomotion
Rio – São Paulo Collaboration

RETINHA
(Workshop on Hadron Physics)

Last meeting

- **Date:** 03-05/DEC/2012
- **Local:** CBPF-RJ
- **Participants:** 39

Fernando Navarra  
Sérgio D. Duarte  
In memóriam  
Kai Cheong Chung

Gastão I. Krein

Marina Nielsen
Another type of meeting we have had, with participation of the Collaboration we initiated, is precisely the present one – RANP.

RANP has been initiated by Takeshi in 1999, soon after IUPAP meeting in Nuclear Physics in São Paulo.

The main object of this series of meetings has been to give our young researchers opportunity to participate in scientific discussions with top-level physicists in the area. This has been one of the main preoccupations of Takeshi.
These workshops gave opportunities of new collaborations with foreign researches.
Rio – São Paulo Collaboration
1990 - 2000

• **Hyperon polarization in** $p + A \rightarrow Y(\bar{Y}) + X$

• **Decoupling in hydrodynamics**
  - Cooper Frye $\rightarrow$ Continuous Emission
  - Further development has been done by Laszlo Csenai
  - and also by Yuri Sinyukov
• Fluctuations in the initial conditions

We studied effects of initial condition fluctuations using IGM (interacting gluon model), applying to p+p collisions.
• **HBT in sonoluminescence**
  Takeshi has been studying sonoluminescence, with Jan Rafelski and Hans-Thomas Elze. We studied HBT effect for this.

• **Variational formulation of hydrodynamics**
Carlos Eduardo Aguiar
Rio – São Paulo Collaboration
1990 - 2000
Rio – São Paulo Collaboration

Publications (1990-2000)

Rio – São Paulo Collaboration

SPheRIO

• Takeshi Osada, some time after his arrival, wanted to make a hydrodynamical code, in order to allow more realistic computations.

• Takeshi and C.E. Aguiar, who new SPH method, suggested to use this algorithm.

• With Collaboration of Klaus Werner, who disposed their event generator NEXUS, we could start more realistic study of IC fluctuations.
Rio – São Paulo Collaboration
SPheRIO

- Takeshi kodama
- Carlos Eduardo Aguiar
- Bernardo M. Tavares
- Gabriel S. Denicol
- Licínio Portugal
- Philipe Mota
- Tomoi Koide

- Takeshi Osada
- Frédérique Grassi
- Otávio Socolowski Jr.
- Rone P.G. Andrade
- Sandra S. Padula
- Wei-Liang Qian
- Fernando G. Gardim
- Yogiro Hama
Rio – São Paulo Collaboration
SPheRIO
Rio – São Paulo Collaboration
SPheRIO
Fluctuations of $v_2$

Effects of fluctuations on HBT radii

Effect of fluctuations on $v_2$

Ridge in hydrodynamic model
Rio – São Paulo Collaboration
SPheRIO

Publications (2006-2013)

Publications (2001-2005)

Some of his good qualities are:

- Quickly adaptability to local customs

- Ability to collaborate with anybody