



HOKKAIDO
UNIVERSITY

JCPRG Progress Report

May 6, 2014

Masayuki AIKAWA

Nuclear Reaction Data Centre (JCPRG)

Hokkaido University

JAPAN

Objectives of JCPRG

- **Compilation** of charged-particle and γ induced nuclear reaction data obtained in Japan
- **Evaluation** (theoretical calculation) of nuclear reaction data on light nuclei
- **Collaboration** promoted with Asian and International Nuclear Reaction Data Centres (NRDC)
- **Education** for graduate school students



JCPRG Member (FY2013: Apr 2013 - Mar. 2014)

| Group | Member |
|--------------------------|--|
| JCPRG Staff | Aikawa, Makinaga |
| JCPRG Researcher | Kato, Fujimoto, Furutachi |
| JCPRG Steering Committee | Aikawa, Hirabayashi, Kimura et al. |
| JCPRG Advisory Board | Aoi(RCNP), Fukahori(JAEA), Ohnishi(YITP), Otsuka(IAEA), Sakurai(RIKEN) |
| MML Researcher | Ebata, Ichinkhorloo, Odsuren, Vidya |
| Nuclear Theory Group | Kimura, Horiuchi, et al. |
| Hokkaido Nuclear Group | Chiba, Katayama, Masui, Noto, Okabe, et al. |



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| Nuclear Theory Group | Kimura, Horiuchi, et al. |
| Hokkaido Nuclear Group | Chiba, Katayama, Masui, Noto, Okabe, et al. |



Compilation Result (FY2013: Apr 2013 - Mar. 2014)

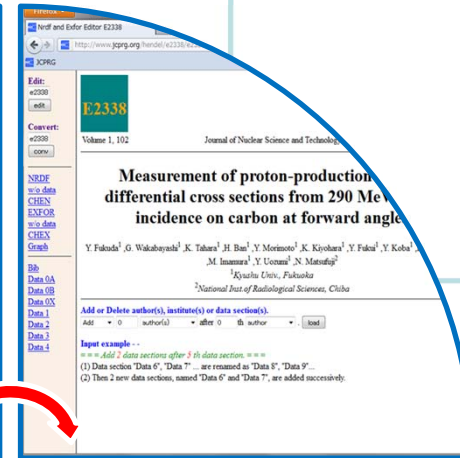
- Member
 - [EXFOR] Vidya, Aikawa, Ebata, Ichinkhorloo, Makinaga, Odsuren
 - [NRDF] Aikawa, Chiba, Ebata, Katayama, Kato, Makinaga, Noto
- EXFOR
 - 42 new and 22 revised/deleted entries were transmitted as 17 trans files (E075-E088, K013-K014, R027) to the NDS open area.
- NRDF (Original database of JCPRG)
 - 42 new papers of charged-particle and γ induced reaction data were compiled for NRDF.



Four topics and keywords

- Experiment

- @HU
- @ATOMKI
- @RIKEN

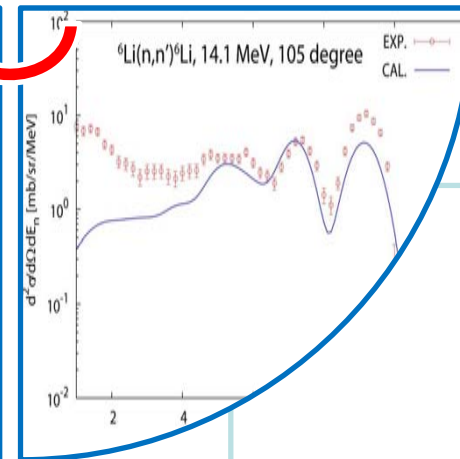
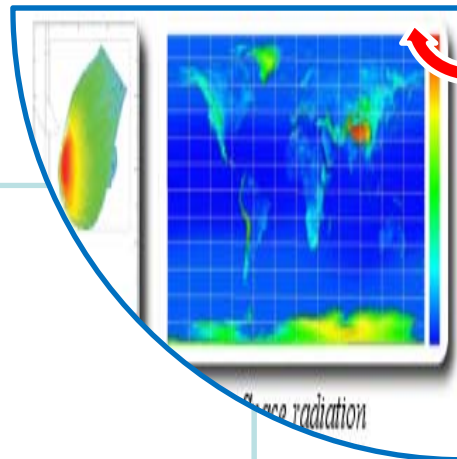


- Compilation

- IAEA
- NRDC
- Asian Centres

- Application

- Medicine
- Transmutation
- Physics



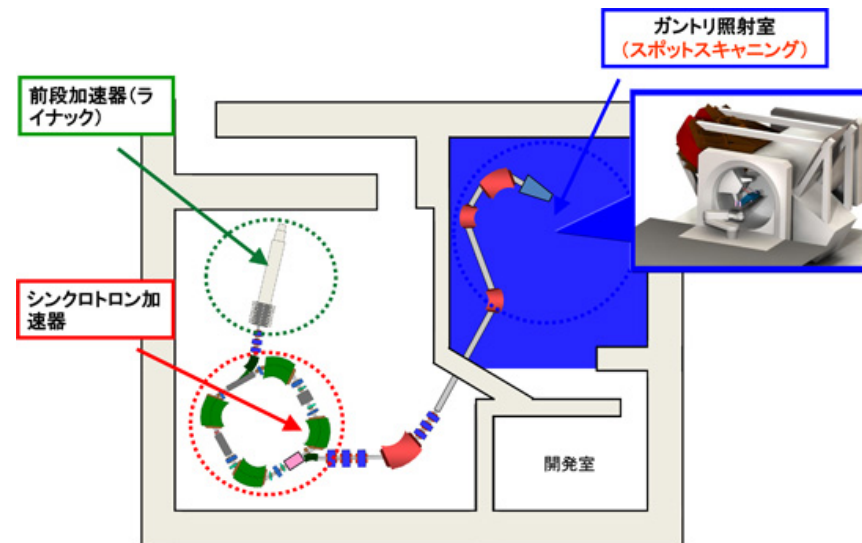
- Evaluation

- CDCC
- OCM+CSM
- Cb-TDHFB



Experiment

- Makinaga managed our experiments at 45 MeV electron LINAC in Hokkaido University.
- Unfortunately, she moved to the Department of Medicine from Apr. 2014.

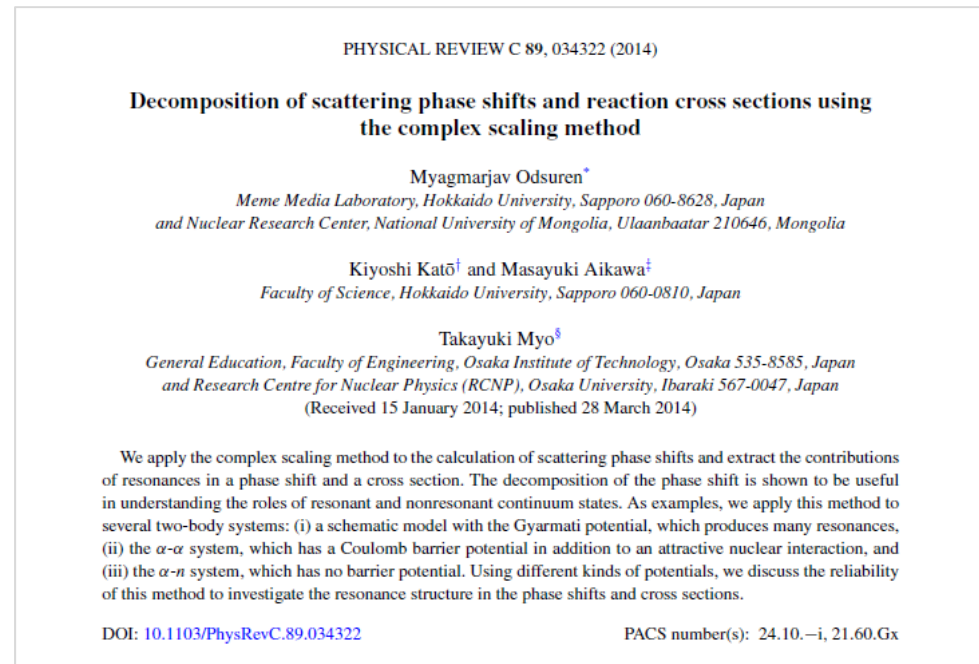


Proton synchrotron at Department of Medicine



Evaluation (Theoretical calculation)

- Member
 - Odsuren, Aikawa, Ebata, Ichinkhorloo, Kato, Kimura, Hirabayashi
- Method
 - CDCC
 - OCM+CSM
 - Cb-TDHFB



Odsuren et al., Phys. Rev. C 89, 034322 (2014)



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Software and service

- Member
 - Ebata, Aikawa, Fujimoto, Makinaga, Chiba, Katayama, Noto
- Coding Software
 - Editor "HENDEL"
 - Digitizer "GSYS"
- Data Retrieval System
 - NRDF (<http://www.jcprg.org/nrdf/>)
 - NRDF/A (<http://www.jcprg.org/nrdfa/>)
 - EXFOR/ENDF (<http://www.jcprg.org/exfor/>)



International and domestic collaboration

- IAEA and NRDC
- CA-NRDB: Nuclear Physics, Nuclear Technology
- RIKEN: Transmutation, Medicine
- JAEA: Transmutation, Medicine
- RCNP

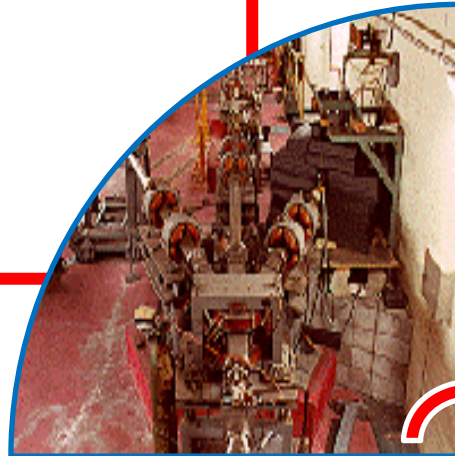
- ATOMKI: Medicine
 - JSPS Bilateral Program was accepted and started from Apr. 2014.
 - Experiments was performed at ATOMKI and will be performed at RIKEN.
 - Theoretical calculation will be performed under the collaboration with JAEA.



Summary (Keywords in topics)

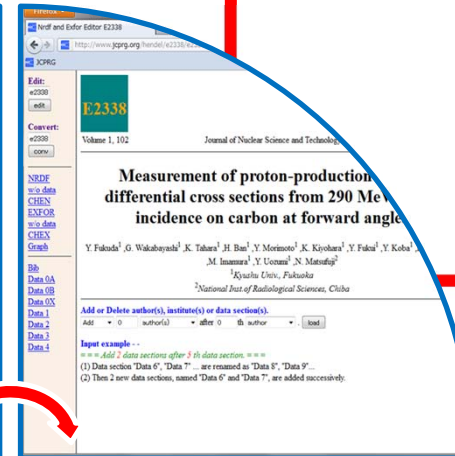
• Experiment

- @HU
- @ATOMKI
- @RIKEN



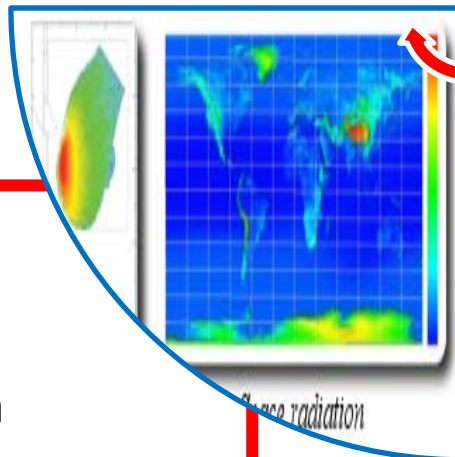
• Compilation

- IAEA
- NRDC
- Asian Centres



• Application

- Medicine
- Transmutation
- Physics



• Evaluation

- CDCC
- OCM+CSM
- Cb-TDHFB

