

Ninth International “Hiroshima” Symposium on the Development and Application of Semiconductor Tracking Detectors

International Conference Center
Hiroshima, Japan

Sep. 1 (Sun. evening) – Sep. 5 (Thur), 2013

<https://indico.cern.ch/conferenceDisplay.py?confId=228876>

Concluding Remarks HSTD9 2013

TOPICS
Simulations
Technology

Pixel and Strip Sensors

Radiation Tolerant Materials

ASICs

Large Scale Applications

Applications in Biology, Astro and CM

New Ideas and Future Applications

Hartmut Sadrozinski

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Abstract submission: June 17, 2013

Y. Unno, Opening address, 2013/9/2

For further information and to solicit an invitation – email hstd@ml.post.kek.jp

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Participants

ADVISORY BOARD:

Region	HSTD1 1993 Hiroshima	HSTD8 2011 Taipei	HSTD9 2013 Hiroshima
Japan	49	19	23
PRC	-	2	5
ROC Taiwan	4	25	2 +3 other Asia
Europe	19	38	31
USA	21	9	6
Total	93	93	70

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Seiden
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I. Takahashi
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Statistics of HSTD9 Scientific Program

17 Posters & 54 talks (9 overviews)

Diverse subjects:

~1/3 technology, 1/3 detectors, 1/3 applications

3+1	4	Long-range and immediate plans in HEP
5+4	9	Simulations and Manufacturing
2+3	5	Radiation Damage
3+1	4	New Materials
3	3	Interconnect- Slim Edges
2+1	3	Data Transmission
3	3	Strip Detectors
6	6	Hybrid Planar Pixels
3	3	3D Pixels
6	6	Monolithic Pixels
3	3	Compton Cameras
4+4	8	Electronics
8	8	Applications in HEP
4+3	7	Applications in Space, Medical, Biology, Mat. Sciences
4	4	Greetings, Good-byes, Organization

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H. Sadrozinski, HSTD8 Closing Remarks

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Ninth International “Hiroshima” Symposium on the Development and Application of Semiconductor Tracking Detectors

8” wafers

International Conference Center

Charge multiplication

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3D sensors-interconnects-MEMS-cooling-slim edges-thin sensors

High-speed – high rate sensors and electronics 10 – 100 ps

Radiation damage up to 1.6×10^{17} neq/cm²

**The rise of the Monolithics: are there too many ideas, not sufficient funds,
but too early to consolidate?**

Surprises: Important to report here for “lessons learned”

Thinned sensors bump bonding: Craig

DC-DC converters: Alan

VCSELS: Steve

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Japanese Institutions rising to the challenge of the Fukushima catastrophe: Detectors

Environmental testing

1) Hand-held gamma-ray spectrometer

Replace ancient technology (Geiger counter) with established technology (CsI(Th)+MPPC), real-time analysis, USB connection etc

2) Compton Cameras:

- a) dedicated stereo camera with DOI, based on medical applications
- b) bring space instrument to ground, AND develop special reconstruction software

Note that these instruments are speedily commercialized to respond to a critical need!

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Ninth International “Hiroshima” Symposium

Giving credit by name

to the “arbeiter” who do all the work and very often are not able to attend (e.g. students):

Good example in presentation of Rainer Klingenberg, Shin Watanabe

HSTD9 Hiroshima Students:

Ryo Nakamura

Takafumi Kawano

Takayuki Nakagawa

Takanori Hayashi

Shunya Furui

Ikumi Eda

Yuka Kanda

Hiroyuki Shirakawa

Tatsuya Nakaoka

Koji Takata

Under leadership of Hiromitsu Takahashi

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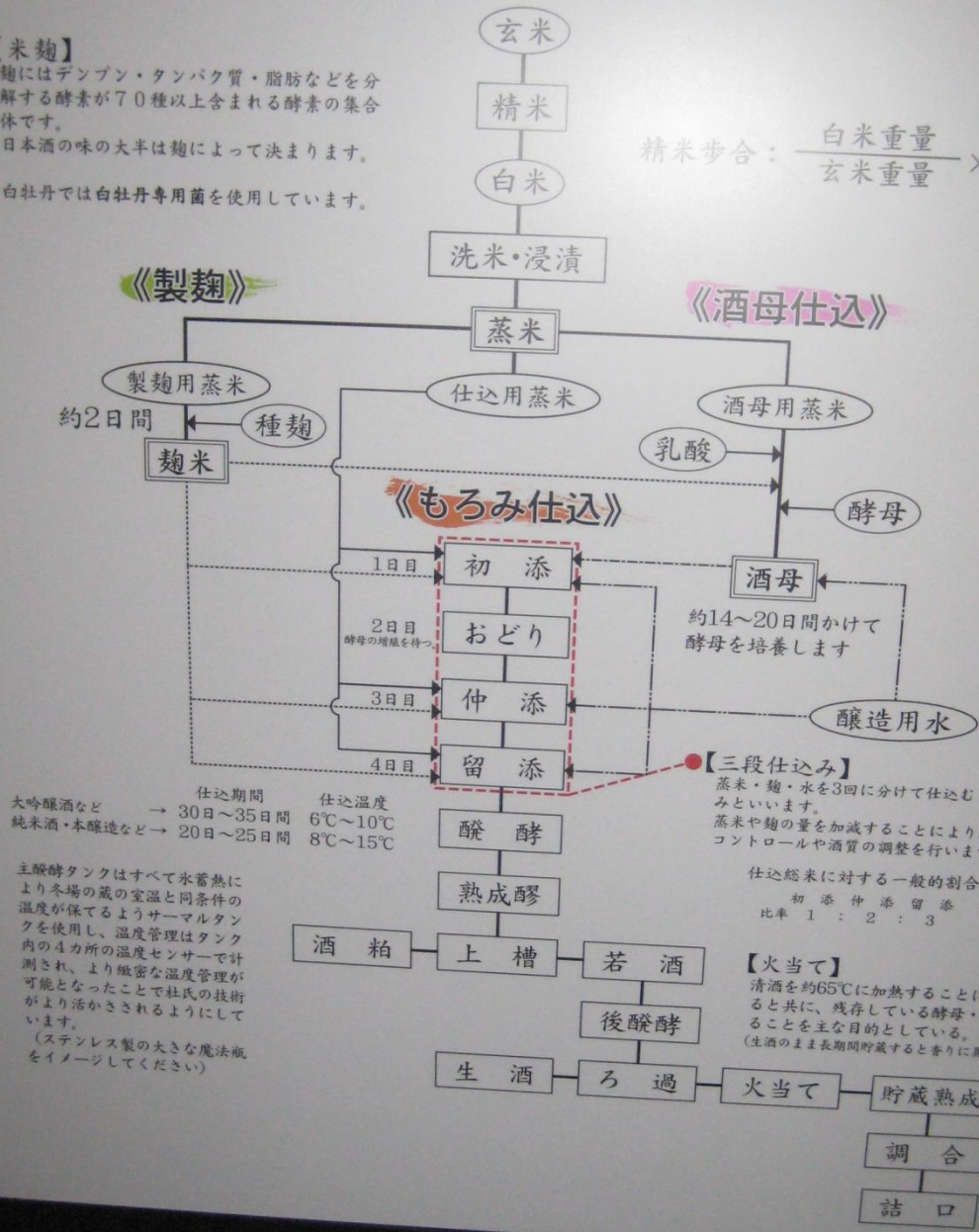
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日本酒『白牡丹』の出来るまで

【米麹】
 麹にはデンプン・タンパク質・脂肪などを分解する酵素が70種以上含まれる酵素の集合体です。
 日本酒の味の大半は麹によって決まります。
 白牡丹では白牡丹専用菌を使用しています。

精米歩合： $\frac{\text{白米重量}}{\text{玄米重量}} \times 100$



Most Complicated Circuit

CHAIR: G. Hall, T. Kondo, S.C. Lee

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 Y. Fukazawa (Chair)
 Y. Unno

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Impromptu
Discussion
Session
on planar
Okonomiyaki
designs



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Lesson in Japanese Customs:
 Development and Application
 of Ultrasonic Tracking Detectors



S. Hsu
 T. Ohsugi
 H. Sadrozinski
 Y. Hara (Chair)

Pour
for your neighbor

Toast
your neighbor
kanpai:
bottoms up!



Panel and Strip Sensors
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Thanks to the Local Organizers

Takashi Ohsugi
Yasushi Fukazawa
Tsunefumi Mizuno
Nobu Unno
& students
Suen Hou
Hartmut Sadrozinski

and the International Advisory Board

G. Hall, IC
T. Kondo, KEK
S.C. Lee, AS
H. Sadrozinski, UCSC
A. Seiden, UCSC
H. Spieler, LBNL
T. Takahashi, ISAS
M. Turala, Cracow
P. Weilhammer, CERN



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グッドで、広島2013年HSTD9



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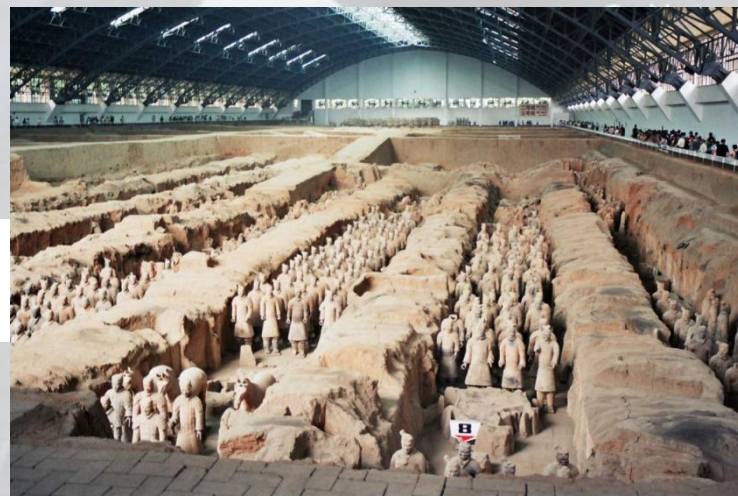
歓迎您，2015年在西安HSTD10

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