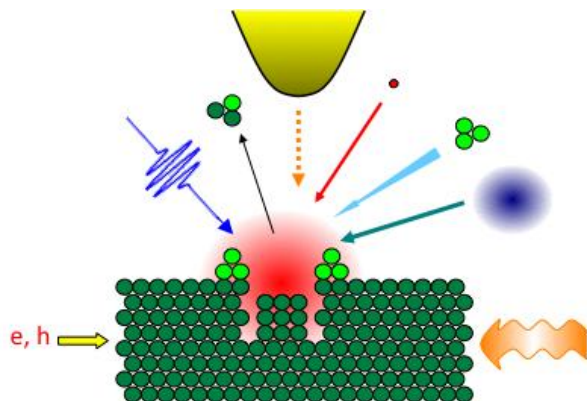


# International Symposium on the Physics of Excitation-assisted Nano-processes

November 20-21, 2009, Wakayama, Japan



## Scope

This symposium aims to provide an opportunity for international discussion on progress in the physics of excitation-assisted nano-processes. It will focus on the recent theoretical and experimental advances in the study of various atomic processes in bulk, surface and nano systems induced by electronic excitations including ultra fast laser, synchrotron radiation, electron beam, probe injection, multi-charged ion, heavy ion and so on. A set of keynote (invited) talks will be arranged to introduce this new arising field of science and technology to those people who are interested in the underlying physics and applications to novel processes unachievable by conventional techniques. Contributed poster presentations are also arranged.

## Location

Daiwa Roynet Hotel Wakayama (20 Nov.) and Wakayama-City Office 14F (21 Nov.)

## Keywords

quantum beam, laser (visible, IR, UV), X-ray, Synchrotron Radiation, electron beam, molecule, ion, heavy ion, multi-charged ion, carrier injection, probe excitation, etc. structural change, symmetry breaking, self-assembly, self-organization, first principle molecular simulation during and after excitations, manipulation of atoms, molecules and nanoparticles on solid surfaces, energy transfer and dissipation

## Deadline

Poster paper submission: October 23, 2009

Notification of acceptance: the end of October 2009.

**Post-deadline poster paper submission: November 13.**

**Registration: November 13.**

## Organization

“Professional Group of Excitation-controlled Nano-processes” in the Japan Society of Applied Physics  
Only-one Project “Excitation-assisted Nano-processes” of Wakayama University

**Program (tentative) 20 Nov. (Friday) Roynet Hotel Wakayama 3F. Briller**

- 9:20-9:40 *Opening Address*  
Yuzo Shinozuka (Wakayama University, Japan)  
**General** chair: Yosuke Kayanuma (Osaka Pref. Univ.)
- 9:40-10:20 *Atomistic Models of the Mechanisms of Materials Modification by Electronic Excitations*  
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- 10:20-10:40 ----- break -----  
chair: Koji Maeda (Univ. Tokyo, Japan)
- 10:40-11:20 *Electron-Beam Induced Deposition of Nanostructured Materials: Opportunities and Challenges*  
D. Howard Fairbrother (Johns Hopkins University, USA) invited
- 11:20-12:00 *Nanoelectronics Projects in Japan and Expectations for Excitation-assisted Nano-processes*  
Toshihiko Kanayama (Inst. Adv. Ind. Sci. & Tech., Japan) invited
- 12:00-13:20 ----- lunch -----
- Promising materials part 1** chair: Housei Akazawa (NTT, Japan)
- 13:20-14:00 *Electronic excitation effects in compound nanoparticles*  
Hidehiro Yasuda (Kobe University, Japan) invited
- 14:00-14:40 *Re-Writability and its Mechanism in DVD: Phase-Change Mechanism Chalcogenide Alloy between Amorphous and Crystal*  
Paul Fons (Inst. Adv. Ind. Sci. & Tech., Japan) invited
- 14:40-15:00 ----- break -----
- Promising materials part 2** chair: Alexander Kolobov (AIST, Japan)
- 15:00-15:40 *Degradation of Solar Cells –optical degradation and radiation damage*  
Yoshio Ohshita (Toyota Tech. Inst., Japan) invited
- 15:40-16:20 *Ga-ion-induced diamond-like-carbon deposition and thermal Ga-induced graphitization*  
Jun-ichi Fujita (Tsukuba University, Japan) invited
- 16:20-16:40 ----- break -----
- 16:40-18:20 **Poster Session**
- 18:40- ----- Banquet ----- (Roynet Hotel Wakayama 3F. Grande)

**Program (tentative) 21 Nov. (Saturday) Wakayama-City Office 14F.**

- Cutting-edge tools part 1** chair: Katsumi Tanimura (Osaka University, Japan)
- 9:00- 9:40 *Manipulation of atoms and molecules by probe excitations*  
Gérald Dujardin (Lab. de Photophysique Moléculaire, France) invited
- 9:40-10:20 *Computational Scheme for Photo-induced Dynamics and Application to Nano Carbons*  
Yoshiyuki Miyamoto (NEC Corporation, Japan) invited
- 10:20-10:40 ----- break -----
- Promising materials part 3** chair: Chihiro Itoh (Wakayama Univ., Japan)
- 10:40-11:20 *Photoexcitation of graphite creates a novel crystalline phase of  $sp^3$ -bonded carbons*  
Jun'ichi Kanasaki (Osaka University, Japan) invited
- 11:20-12:00 *Structural change of CNT by X-ray irradiation and probe excitation*  
Yutaka Mera (Tokyo University, Japan) invited
- 12:00-13:20 ----- lunch -----

- 13:20-14:20 Mini Excursion to Wakayama Castle  
**Cutting-edge tools part 2** chair: Jiro Matsuo (Kyoto Univ., Japan)
- 14:20-15:00 *Ultrafast laser-induced phase-transition in solids*  
Klaus Sokolowski-Tinten (Univ. Duisburg-Essen, Germany) invited
- 15:00-15:40 *Dynamics of cooperative lattice-charge (spin) coupled phenomena under far equilibrium condition induced by fs laser light irradiation studied by 100ps time-resolved x-ray technique*  
Shin-ya Koshihara (Tokyo Institute of Technology, Japan) invited1
- 15:40-16:20 *Time resolved electron diffraction*  
Yoshie Murooka (Osaka University, Japan) invited
- 16:20-16:40 *Closing Address*  
Yuzo Shinozuka (Wakayama University, Japan)

Keynote (invited) talk is composed of 30 min. talk and 10 min. discussion.

### **Contributed Poster**

Those who wish to present a paper in the symposium must submit an abstract not later than 23<sup>th</sup> October 2009. The one page abstract format is given in symposium WEB page. Notification of acceptance will be sent at the end of October 2009. Accepted abstracts are printed in color in the Symposium Booklet. Allotted poster area is 90 cm width and 120 cm height.

***Poster Award: The best poster will be awarded in the closing session.  
Submission to post-deadline poster paper can be accepted till 13 Nov.***

### **Symposium Booklet**

A symposium booklet is published in color as an Extended Abstract of ISPEN with ISBN (*coming soon*). It contains all the abstracts of keynote talks and poster papers (not include post-deadline papers), and will be exclusively distributed at the Reception Desk.

### **Registration and Fees**

Admission Fee to the symposium is 10,000 JYN for member (Prof. Group JSAP), 12,000 JYN for non-member, 5,000 JYN for student, including and a copy of Symposium Booklet and Banquet Fee. Admission Fee is charged at the Reception Desk.

All participants are requested to register by e-mail not later than November 13, 2009 to the symposium office ([yytanaka@sys.wakayama-u.ac.jp](mailto:yytanaka@sys.wakayama-u.ac.jp)).

Registration form is given in the web site <http://annex.jsap.or.jp/excite/ispen-register.pdf>.

### **Banquet**

Symposium Banquet is arranged for all participants on November 20<sup>th</sup> evening at “Grande” room in Daiwa Roynet Hotel Wakayama with no extra charge.

### **Hotel**

A block of rooms has been reserved for participants from 19<sup>th</sup> night to 21<sup>st</sup> morning.

Daiwa Roynet Hotel: symposium site Tel: +81-73-435-0055 Fax: +81-73-435-0056  
<http://www.daiwaroynet.jp/wakayama/>  
Single room JYN 8,300 per night including breakfast, tax and service.

Best Western Hotel Wakayama: 5 min. walk from symposium site  
Tel: +81-73-431-8181 Fax: +81-73-431-8182,  
<http://bestwestern-joytel.com/wakayama/index.html> )  
Single room JYN 5,600 per night including light breakfast, tax and service.

Please contact these hotels directly by phone, fax or WEB and mention that you will attend the symposium to receive the reduced fee (first come first served).  
Those who want to extend their stay, please consult with each hotel.

### Travel

Access to Wakayama city is convenient: one-hour train trip from Osaka city, a central city in the west Japan; one-hour bus-ride from Kansai International Airport which directly connected with many cities over the world. Details are given in  
<http://www.city.wakayama.wakayama.jp/english/directions.html>

In Wakayama prefecture there are many scenery and historical places. Among them Koyasan and Kumanokodo are famous as “Sacred Sites and Pilgrimage Routes in the Kii Mountain Range”, which is inscribed in the World Cultural and Natural Heritage of UNESCO. <http://www.sekaiisan-wakayama.jp/english/index.html>  
These places can be visited with one-day trip from Wakayama city.



### Organizing Committee

Yuzo Shinozuka (Wakayama Univ.) Symposium Chair  
Koji Maeda (Univ. of Tokyo) Housei Akazawa (NTT)  
Hiroshi Fushimi (New Japan Radio Co.) Tokihiro Ikeda (Riken)  
Kenji Motohashi (Toyo Univ.) Chihiro Itoh (Wakayama Univ.)

### Advisory Committee

Kouichi Murakami (Tsukuba Univ.) Osamu Ueda (Kanazawa Institute of Tech.)

### Local Committee (Wakayama Univ.)

Ikuko Akimoto, Masato Oda, Nobuhiko Ozaki, Hirotsugu Kida,  
Tsunehisa Okuno, Kenji Kisoda, Gu Ping

## ISPEN-2009 Schedule

	20 Nov. Friday	21 Nov. Saturday
location	Roynet Hotel Wakayama	Wakayama City Office 14F
9:00	reception Opening	Dujardin
10:00	Shluger	Miyamoto
	break	break
11:00	Fairbrother Kanayama	Kanasaki Mera
12:00		
	lunch	lunch
13:00		
14:00	Yasuda Fons	Mini excursion to Wakayama Castle
	break	Sokolowski-Tinten
15:00	Ohshita	Koshihara
16:00	Fujita	Murooka
	break	Closing
17:00	poster	
18:00		
19:00		
	banquet	
20:00		