

**2003 US-Japan Joint Workshop on
High Heat Flux Components and Plasma Surface Interactions for Next Fusion Devices
& High Power Density Devices and Designs**

Monday July 28, 2003

On the first and last page of a presentation this link will bring you back to the workshop agenda.

Workshop Agenda

| Session 1 Welcome and Overviews | | | | |
|---|--|--------------|----------------------|-----------|
| 9:00AM | Welcome and information | SNL | Nygren | |
| 9:20 | Introduction of chairpersons | SNL | Nygren | |
| 9:25 | Introduction of Japanese participants | OsakaU | Ueda | |
| 9:30 | Introductory Remarks on Reorganization in Japanese Program | NIFS | Noda | |
| 9:40 | Workshop History | SNL | Nygren | |
| 9:50 | Overview of US program | SNL | Nygren | |
| 10:00 | coffee | | | |
| Session 2 Plasma Facing Components and Blankets for High Power Density Fusion Chambers | | <i>chair</i> | | Hashizume |
| 10:10 | High heat flux experiment on F82H divertor mockup for DEMO | JAERI | Suzuki | |
| 10:40 | Activities on liquid blanket system in Japan | NIFS | Sagara | |
| 11:10 | Surface Wave Structure and Heat Transfer of Vertical Liquid Film Flow | KyotoU | Kunugi | |
| 11:40 | ARIES/CLIFF molten salt chamber design | SNL | Nygren | |
| 12:10 | Ultrahigh Heat Transfer Enhancement by Nano- and Micro-Scale Structure Formed on Surface | KyotoU | Kunugi | |
| 12:40 | lunch | | | |
| 2:00 | Introductory Remarks | USDOE | Berk | |
| Session 3 Thermal-Hydraulic Issues for High Power Density Fusion Chambers | | <i>chair</i> | | Sagara |
| 2:10 | Analysis on MHD pressure drop in remountable first wall design | TohokuU | Hashizume | |
| 2:40 | Thermal hydraulics design of the re-circulating Flibe blanket | GA | Wong | |
| 3:10 | Experimental results obtained from TNT loop | TohokuU | Hashizume | |
| 3:40 | coffee | | | |
| Session 4 Surface Responses in MFE and IFE Chambers | | <i>chair</i> | | Wong |
| 3:50 | Plasma surface interaction issues in magnetic fusion chambers | OsakaU | Ueda | |
| 4:30 | Plasma surface interaction issues in inertial confinement fusion chambers | UWisc | Blanchard | |
| 5:10 | Irradiation Effects on Metals by He Plasma Bombardment in LHD | Kyushu U | Yoshida | |
| 5:40 | High Heat Flux Experiment on Tungsten by Helium Beam Irradiation | Kyushu U | Tokunaga/ Yoshida | |
| 6:10 | Adjourn | | | |
| 7:00PM | reception at Manresa Castle | | | |

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| | | | |
|------------------|--|--------------|--------------------|
| Session 5 | <i>Edge plasma issues: stellarator/heliotron</i> | <i>chair</i> | Sagara |
| 8:30 | Progress in LHD experiments in 2002-03 | NIFS | Noda |
| 9:00 | NCSX Plasma Boundary Considerations | PPPL | Kugel |
| 9:30 | Edge plasma studies in Heliotron-J | KyotoU | Mizuuchi |
| 10:00 | coffee | | |
| Session 6 | <i>Edge plasma issues: spheromak experiments</i> | <i>chair</i> | Nygren |
| 10:20 | Experiments at U. Wisconsin | UWisc | Blanchard |
| 10:50 | SSPX experiments | LLNL | Hill |
| 11:20 | Boundary Control Issues for the New RMF Sustained Steady-State FRCs | UWash | Guo |
| 11:50 | <i>lunch</i> | | |
| Session 7 | <i>Edge plasma issues: spherical tokamaks & mirrors</i> | <i>chair</i> | Nygren |
| 1:30 | NSTX Heat Flux Scaling Experiments | PPPL | Kugel |
| 2:00 | Edge plasma and PSI studies in the tandem mirror <u>GAMMA-10</u> | TsukubaU | Nakashima |
| 2:30 | Experiments in CDXU | UCSD | Luckhardt |
| 3:00 | Initial Deposition Monitor Results | PPPL | Kugel |
| 3:30 | coffee | | |
| Session 8 | <i>Edge plasma issues: tokamaks</i> | <i>chair</i> | Ueda |
| 3:50 | DIII-D Tokamak Program Overview and Collaborations | GA | Stambaugh/ Wong |
| 4:20 | Tritium retention in large tokamak | Nagoya | Tanabe |
| Session 9 | <i>Discussion on Plasma Edge Issues</i> | <i>chair</i> | Hill/Ueda |
| 4:50 | <i>Open discussion</i> | | |
| 5:50 | adjourn | | |

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Wednesday July 30, 2003

| | | | |
|-------------------|---|--------------|-----------------------|
| Session 10 | Materials and Plasma Surface Interactions | <i>chair</i> | <i>Nygren</i> |
| 8:30 | Carbon impurity effects on plasma facing wall | OsakaU | Ueda |
| 9:00 | Deuterium retention of carbon-tungsten mixed materials | JAERI | Suzuki |
| 9:30 | Wall response in an IFE chamber | UWisc | Blanchard |
| 10:00 | Response of Targets to X-ray bursts and debris | SNL | Renk |
| 10:10 | coffee | | |
| 10:40 | Tracer techniques in studies of material migration in tokamaks | RIT | Rubel/Tanabe |
| 11:00 | (1) PMI studies in JT-60U- Hydrogen retention and erosion/deposition of carbon & (2) Effort of tritium removal | NagoyaU | Tanabe |
| 11:40 | lunch | | |
| | Materials and Plasma Surface Interactions, continued | <i>chair</i> | <i>Nygren</i> |
| 1:00 | Hydrogen Isotope Recoil Emission from Tungsten | SNL | Bastasz |
| 1:30 | Dependence of Surface Temperature and Incidental Ion Energy for Bubble Formation on Tungsten Surface Irradiated by Low Energy and High Flux Helium/Hydrogen Plasmas | NagoyaU | Nishijima/Ueda |
| 2:00 | Ion impact desorption of D from W | U-ILL/SNL | Coventry |
| Session 11 | Innovative PFC concepts | <i>chair</i> | <i>Ueda</i> |
| 2:30 | A new facility for POP experiments on innovative PFC concepts and the first experiments on liquid Li and Ga | NIFS | Hirooka |
| 3:00 | Experiments of Pebble Divertor | Osaka U | Nishikawa/ Hirooka |
| 3:10 | US-EU collaboration and experiments on ITER materials | UCSD | Luckhardt |
| 3:40 | coffee | | |
| 4:10 | Li experiments in LIMITS | SNL | Nygren/ Ulrickson |
| 4:40 | Li experiments at U of I | U-ILL | Stubbers |
| Session 12 | Closing remarks | | |
| 5:10 | Closing remarks | | Ueda |
| 5:20 | Closing remarks | | Nygren |
| 5:30 | adjourn | | |

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Participants from Japan

| | | | | |
|-------|-----------|-----------|------------------------|--------------------------------------|
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Participants from US

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|-------|---------|-----------|--------------------------------|----------------------------|
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