

## Subject index

### Absorber Materials

- Cladding technique for development of Ag–In–Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154

### Aluminum, Aluminum Alloys and Compounds

- Cladding technique for development of Ag–In–Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154
- Mechanical properties and microstructure of AlMg<sub>3</sub> irradiated in SINQ Target-3, Y. Dai and D. Hamaguchi 343 (2005) 184

### Carbon

- An edge-cooled graphite target for J-PARC Muon Science Facility, Y. Miyake, S. Makimura, K. Nishiyama and K. Nagamine 343 (2005) 21
- Secondary beam production in the nuclear and particle physics facility in J-PARC, K. Agari, Y. Hayato, E. Hirose, A. Ichikawa, J. Imazato, T. Kobayashi, M. Minakawa, T. Nakadaira, K. Nishikawa, H. Noumi, T. Ooyabu, Y. Sato, Y. Suzuki, H. Takahashi, S. Ueda and Y. Yamanoi 343 (2005) 27
- Assessment of cavitation–erosion resistance of 316LN stainless steel in mercury as a function of surface treatment, S.J. Pawel 343 (2005) 101

### Cavities (includes Voids, Holes)

- Current status of 1 MW pulse spallation neutron source (JSNS) of J-PARC, Y. Ikeda 343 (2005) 7

### Cladding Materials

- Technique for cladding of poison sheets for Cd-poisoned moderator, M. Kawai, Y. Kobayashi, Y. Miyake, H. Inoue, M. Harada, M. Teshigawara, S. Saito, K. Kikuchi, A. Chiba, K.

- Sakaki, T. Yamamura, H. Kurishita, K. Konashi and K. Nakajima 343 (2005) 145
- Cladding technique for development of Ag–In–Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154
- Thermal hydraulic design and decay heat removal of a solid target for a spallation neutron source, N. Takenaka, D. Nio, Y. Kiyonagi, K. Mishima, M. Kawai and M. Furusaka 343 (2005) 169
- The high temperature three point bend testing of proton irradiated 316L stainless steel and Mod 9Cr–1Mo, S.A. Maloy, A. Zubelewicz, T. Romero, M.R. James, W.F. Sommer and Y. Dai 343 (2005) 191

### Coatings and Coated Particles

- Improved cavitation resistance of structural materials in pulsed liquid metal targets by surface hardening, T. Koppitz, P. Jung, G. Müller, A. Weisenburger, M. Futakawa and Y. Ikeda 343 (2005) 92

### Cold-Worked Materials

- Pitting damage by pressure waves in a mercury target, M. Futakawa, T. Naoe, C.C. Tsai, H. Kogawa, S. Ishikura, Y. Ikeda, H. Soyama and H. Date 343 (2005) 70

### Compatibility and Corrosion (includes Stress Corrosion Cracking)

- Assessment of cavitation–erosion resistance of 316LN stainless steel in mercury as a function of surface treatment, S.J. Pawel 343 (2005) 101
- LiSoR irradiation experiments and preliminary post-irradiation examinations, H. Glasbrenner, Y. Dai and F. Gröschel 343 (2005) 267
- Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel,

- Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313
- Comparison of the corrosion behavior of austenitic and ferritic/martensitic steels exposed to static liquid Pb–Bi at 450 and 550 °C, Y. Kurata, M. Futakawa and S. Saito 343 (2005) 333
- Metallurgical study on erosion and corrosion behaviors of steels exposed to liquid lead–bismuth flow, M. Kondo, M. Takahashi, T. Suzuki, K. Ishikawa, K. Hata, S. Qiu and H. Sekimoto 343 (2005) 349
- Investigation of the compatibility of tungsten and high temperature sodium, Y.-L. Xu, B. Long, Y.-C. Xu and H.-Q. Li 343 (2005) 360
- Deformation**
- Modeling tensile response and flow localization effects in 316SS after exposure to spallation and fission irradiation environments, X. Wu, X. Pan, M. Li and J.F. Stubbins 343 (2005) 302
- Diffusion**
- Cladding technique for development of Ag–In–Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154
- Electron Irradiation**
- Defect structural evolution in high purity tungsten irradiated with electrons using high voltage electron microscope, S. Fukuzumi, T. Yoshiie, Y. Satoh, Q. Xu, H. Mori and M. Kawai 343 (2005) 308
- Electron Microscopy**
- Mechanical properties and microstructure of AlMg<sub>3</sub> irradiated in SINQ Target-3, Y. Dai and D. Hamaguchi 343 (2005) 184
- Defect structural evolution in high purity tungsten irradiated with electrons using high voltage electron microscope, S. Fukuzumi, T. Yoshiie, Y. Satoh, Q. Xu, H. Mori and M. Kawai 343 (2005) 308
- Embrittlement**
- Current status of 1 MW pulse spallation neutron source (JSNS) of J-PARC, Y. Ikeda 343 (2005) 7
- Pitting damage by pressure waves in a mercury target, M. Futakawa, T. Naoe, C.C. Tsai, H. Kogawa, S. Ishikura, Y. Ikeda, H. Soyama and H. Date 343 (2005) 70
- Fatigue properties of type 316LN stainless steel in air and mercury, J.P. Strizak, H. Tian, P.K. Liaw and L.K. Mansur 343 (2005) 134
- Microstructural control to improve the resistance to radiation embrittlement in vanadium, H. Kurishita, T. Kuwabara, M. Hasegawa, S. Kobayashi and K. Nakai 343 (2005) 318
- Experimental Techniques**
- R&D works on high-power targetry for neutrino factories, K. Yoshimura 343 (2005) 14
- Pitting damage by pressure waves in a mercury target, M. Futakawa, T. Naoe, C.C. Tsai, H. Kogawa, S. Ishikura, Y. Ikeda, H. Soyama and H. Date 343 (2005) 70
- Cladding technique for development of Ag–In–Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154
- Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313
- Fast Reactor Materials**
- The high temperature three point bend testing of proton irradiated 316L stainless steel and Mod 9Cr–1Mo, S.A. Maloy, A. Zubelewicz, T. Romero, M.R. James, W.F. Sommer and Y. Dai 343 (2005) 191
- Fundamental study of polonium contamination by neutron irradiated lead–bismuth eutectic, T. Obara, T. Miura and H. Sekimoto 343 (2005) 297
- Fatigue**
- Pitting damage by pressure waves in a mercury target, M. Futakawa, T. Naoe, C.C. Tsai, H. Kogawa, S. Ishikura, Y. Ikeda, H. Soyama and H. Date 343 (2005) 70
- Benchmarking dynamic strain predictions of pulsed mercury spallation target vessels, B.W. Riemer 343 (2005) 81
- Fatigue properties of type 316LN stainless steel in air and mercury, J.P. Strizak, H. Tian, P.K. Liaw and L.K. Mansur 343 (2005) 134
- First Wall Materials**
- Current status of 1 MW pulse spallation neutron source (JSNS) of J-PARC, Y. Ikeda 343 (2005) 7
- Charpy impact tests on martensitic/ferritic steels after irradiation in SINQ target-3, Y. Dai and P. Marmy 343 (2005) 247

**Fracture and Fracture Toughness**

Radiation hardening and -embrittlement due to He production in F82H steel irradiated at 250 °C in JMTR, E. Wakai, S. Jitsukawa, H. Tomita, K. Furuya, M. Sato, K. Oka, T. Tanaka, F. Takada, T. Yamamoto, Y. Kato, Y. Tayama, K. Shiba and S. Ohnuki 343 (2005) 285

**Gases in Materials** (*excludes Hydrogen, Helium and Tritium*)

Improved cavitation resistance of structural materials in pulsed liquid metal targets by surface hardening, T. Koppitz, P. Jung, G. Müller, A. Weisenburger, M. Futakawa and Y. Ikeda 343 (2005) 92

**Grain Boundaries**

Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313

**Heat Treatment**

Secondary beam production in the nuclear and particle physics facility in J-PARC, K. Agari, Y. Hayato, E. Hirose, A. Ichikawa, J. Imazato, T. Kobayashi, M. Minakawa, T. Nakadaira, K. Nishikawa, H. Noumi, T. Ooyabu, Y. Sato, Y. Suzuki, H. Takahashi, S. Ueda and Y. Yamanoi 343 (2005) 27

Improved cavitation resistance of structural materials in pulsed liquid metal targets by surface hardening, T. Koppitz, P. Jung, G. Müller, A. Weisenburger, M. Futakawa and Y. Ikeda 343 (2005) 92

Cladding technique for development of Ag-In-Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154

Ductility recovery in structural materials for spallation targets by post-irradiation annealing, J. Chen, P. Jung, M. Rödiger, H. Ullmaier and G.S. Bauer 343 (2005) 227

**Helium**

Mechanical properties and microstructure of AlMg<sub>3</sub> irradiated in SINQ Target-3, Y. Dai and D. Hamaguchi 343 (2005) 184

Annealing effects on mechanical properties and microstructure of F82H irradiated at ≤60 °C with 800 MeV protons, Y. Dai, X. Jia and S.A. Maloy 343 (2005) 241

Charpy impact tests on martensitic/ferritic steels after irradiation in SINQ target-3, Y. Dai and P. Marmy 343 (2005) 247

Tensile properties of austenitic stainless steels irradiated at SINQ target 3, S. Saito, K. Kikuchi, K. Usami, A. Ishikawa, Y. Nishino, M. Kawai and Y. Dai 343 (2005) 253

Tensile properties of candidate structural materials for high power spallation sources at high helium contents, P. Jung, J. Henry and J. Chen 343 (2005) 275

Radiation hardening and -embrittlement due to He production in F82H steel irradiated at 250 °C in JMTR, E. Wakai, S. Jitsukawa, H. Tomita, K. Furuya, M. Sato, K. Oka, T. Tanaka, F. Takada, T. Yamamoto, Y. Kato, Y. Tayama, K. Shiba and S. Ohnuki 343 (2005) 285

Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313

**Hydrogen and Hydrides** (*includes Deuterium and Deuterides*)

Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313

**Impurities**

Defect structural evolution in high purity tungsten irradiated with electrons using high voltage electron microscope, S. Fukuzumi, T. Yoshiie, Y. Satoh, Q. Xu, H. Mori and M. Kawai 343 (2005) 308

**Interfaces**

An edge-cooled graphite target for J-PARC Muon Science Facility, Y. Miyake, S. Makimura, K. Nishiyama and K. Nagamine 343 (2005) 21

Cladding technique for development of Ag-In-Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154

**Ion Irradiation**

Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313

Temperature and dose dependences of radiation damage in modified stainless steel, S. Zhu, Y. Zheng, P. Ahmat, Y. Xu, D. Zhou, Z. Wang, E. Du, D. Yuan, Y. Zuo, Y. Ruan and X. Duan 343 (2005) 325

- Positron annihilation lifetime spectroscopy on heavy ion irradiated stainless steels and tungsten, S. Zhu, Y. Xu, Z. Wang, Y. Zheng, D. Zhou, E. Du, D. Yuan, M. Fukuda, M. Mihara, K. Matsuta and T. Minamisono 343 (2005) 330
- Irradiation** (*not listed elsewhere, includes Irradiation History or Schedule*)
- Micro-hardness measurement and microstructure characterization of T91 weld metal irradiated in SINQ Target-3, X. Jia and Y. Dai 343 (2005) 212
- Joining** (*includes Welding, Brazing, Soldering*)
- Characterization of a carburized surface layer on an austenitic stainless steel, K. Farrell, E.D. Specht, J. Pang, L.R. Walker, A. Rar and J.R. Mayotte 343 (2005) 123
- Technique for cladding of poison sheets for Cd-poisoned moderator, M. Kawai, Y. Kobayashi, Y. Miyake, H. Inoue, M. Harada, M. Teshigawara, S. Saito, K. Kikuchi, A. Chiba, K. Sakaki, T. Yamamura, H. Kurishita, K. Konashi and K. Nakajima 343 (2005) 145
- Cladding technique for development of Ag–In–Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154
- Micro-hardness measurement and microstructure characterization of T91 weld metal irradiated in SINQ Target-3, X. Jia and Y. Dai 343 (2005) 212
- The tensile properties of AISI 316L and OPTIFER in various conditions irradiated in a spallation environment, J. Chen, M. Rödiger, F. Carsughi, Y. Dai, G.S. Bauer and H. Ullmaier 343 (2005) 236
- Laser**
- Improved cavitation resistance of structural materials in pulsed liquid metal targets by surface hardening, T. Koppitz, P. Jung, G. Müller, A. Weisenburger, M. Futakawa and Y. Ikeda 343 (2005) 92
- Liquid Metals**
- Summary of cavitation erosion investigations for the SNS mercury target, J.R. Haines, B.W. Riemer, D.K. Felde, J.D. Hunn, S.J. Pawel and C.C. Tsai 343 (2005) 58
- Benchmarking dynamic strain predictions of pulsed mercury spallation target vessels, B.W. Riemer 343 (2005) 81
- Assessment of cavitation–erosion resistance of 316LN stainless steel in mercury as a function of surface treatment, S.J. Pawel 343 (2005) 101
- Fatigue properties of type 316LN stainless steel in air and mercury, J.P. Strizak, H. Tian, P.K. Liaw and L.K. Mansur 343 (2005) 134
- Thermal hydraulic design and decay heat removal of a solid target for a spallation neutron source, N. Takenaka, D. Nio, Y. Kiyonagi, K. Mishima, M. Kawai and M. Furusaka 343 (2005) 169
- LiSoR irradiation experiments and preliminary post-irradiation examinations, H. Glasbrenner, Y. Dai and F. Gröschel 343 (2005) 267
- Fundamental study of polonium contamination by neutron irradiated lead–bismuth eutectic, T. Obara, T. Miura and H. Sekimoto 343 (2005) 297
- Comparison of the corrosion behavior of austenitic and ferritic/martensitic steels exposed to static liquid Pb–Bi at 450 and 550 °C, Y. Kurata, M. Futakawa and S. Saito 343 (2005) 333
- Expansion of solidified lead bismuth eutectic, H. Glasbrenner, F. Gröschel, H. Grimmer, J. Patorski and M. Rohde 343 (2005) 341
- Low Activation Materials** (*includes Reduced Activation*)
- Annealing effects on mechanical properties and microstructure of F82H irradiated at  $\leq 60$  °C with 800 MeV protons, Y. Dai, X. Jia and S.A. Maloy 343 (2005) 241
- Charpy impact tests on martensitic/ferritic steels after irradiation in SINQ target-3, Y. Dai and P. Marmy 343 (2005) 247
- Mathematical and Computational Methods**
- Benchmarking dynamic strain predictions of pulsed mercury spallation target vessels, B.W. Riemer 343 (2005) 81
- Effect of proton beam profile on stress in JSNS target vessel, H. Kogawa, S. Ishikura, H. Sato, M. Harada, S. Takatama, M. Futakawa, K. Haga, R. Hino, S. Meigo, F. Maekawa and Y. Ikeda 343 (2005) 178
- Mechanical Properties** (*not listed elsewhere*)
- Cladding technique for development of Ag–In–Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154
- Modeling tensile response and flow localization effects in 316SS after exposure to spallation and fission irradiation environments, X. Wu, X. Pan, M. Li and J.F. Stubbins 343 (2005) 302

**Metals, Alloys and Compounds** (*not listed elsewhere*)

- Estimation of pitting damage induced by cavitation impacts, H. Soyama, M. Futakawa and K. Homma 343 (2005) 116
- Cladding technique for development of Ag–In–Cd decoupler, M. Teshigawara, M. Harada, S. Saito, K. Kikuchi, H. Kogawa, Y. Ikeda, M. Kawai, H. Kurishita and K. Konashi 343 (2005) 154
- Positron annihilation lifetime spectroscopy on heavy ion irradiated stainless steels and tungsten, S. Zhu, Y. Xu, Z. Wang, Y. Zheng, D. Zhou, E. Du, D. Yuan, M. Fukuda, M. Mihara, K. Matsuta and T. Minamisono 343 (2005) 330

**Moderator and Reflector Materials**

- Optimized concept design of the target station of Chinese spallation neutron source, Q.W. Yan, W. Yin and B.L. Yu 343 (2005) 45
- Technique for cladding of poison sheets for Cd-poisoned moderator, M. Kawai, Y. Kobayashi, Y. Miyake, H. Inoue, M. Harada, M. Teshigawara, S. Saito, K. Kikuchi, A. Chiba, K. Sakaki, T. Yamamura, H. Kurishita, K. Konashi and K. Nakajima 343 (2005) 145

**Neutron Irradiation**

- Construction status of the J-PARC project, S. Nagamiya 343 (2005) 1
- Current status of 1 MW pulse spallation neutron source (JSNS) of J-PARC, Y. Ikeda 343 (2005) 7
- Secondary beam production in the nuclear and particle physics facility in J-PARC, K. Agari, Y. Hayato, E. Hirose, A. Ichikawa, J. Imazato, T. Kobayashi, M. Minakawa, T. Nakadaira, K. Nishikawa, H. Noumi, T. Ooyabu, Y. Sato, Y. Suzuki, H. Takahashi, S. Ueda and Y. Yamanoi 343 (2005) 27
- Optimized concept design of the target station of Chinese spallation neutron source, Q.W. Yan, W. Yin and B.L. Yu 343 (2005) 45
- Material issues for the super neutrino beam and high-intensity spallation source (measurements using the multi-particle correlation), H. Takahashi 343 (2005) 53
- DPA calculation for Japanese spallation neutron source, M. Harada, N. Watanabe, C. Konno, S. Meigo, Y. Ikeda and K. Niita 343 (2005) 197
- Radiation hardening and embrittlement due to He production in F82H steel irradiated at 250 °C in JMTR, E. Wakai, S. Jitsukawa, H. Tomita, K. Furuya, M. Sato, K. Oka, T. Tanaka,

- F. Takada, T. Yamamoto, Y. Kato, Y. Tayama, K. Shiba and S. Ohnuki 343 (2005) 285
- Fundamental study of polonium contamination by neutron irradiated lead–bismuth eutectic, T. Obara, T. Miura and H. Sekimoto 343 (2005) 297

**Neutron Scattering**

- Construction status of the J-PARC project, S. Nagamiya 343 (2005) 1
- Current status of 1 MW pulse spallation neutron source (JSNS) of J-PARC, Y. Ikeda 343 (2005) 7
- Benchmarking dynamic strain predictions of pulsed mercury spallation target vessels, B.W. Riemer 343 (2005) 81
- Technique for cladding of poison sheets for Cd-poisoned moderator, M. Kawai, Y. Kobayashi, Y. Miyake, H. Inoue, M. Harada, M. Teshigawara, S. Saito, K. Kikuchi, A. Chiba, K. Sakaki, T. Yamamura, H. Kurishita, K. Konashi and K. Nakajima 343 (2005) 145

**Nuclear Properties**

- Construction status of the J-PARC project, S. Nagamiya 343 (2005) 1

**Optical Microscopy**

- Characterization of a carburized surface layer on an austenitic stainless steel, K. Farrell, E.D. Specht, J. Pang, L.R. Walker, A. Rar and J.R. Mayotte 343 (2005) 123

**Oxides**

- LiSoR irradiation experiments and preliminary post-irradiation examinations, H. Glasbrenner, Y. Dai and F. Gröschel 343 (2005) 267

**Phase Equilibria** (*includes Constitution, Phase Stability, Phase Instability*)

- Characterization of a carburized surface layer on an austenitic stainless steel, K. Farrell, E.D. Specht, J. Pang, L.R. Walker, A. Rar and J.R. Mayotte 343 (2005) 123
- Expansion of solidified lead bismuth eutectic, H. Glasbrenner, F. Gröschel, H. Grimmer, J. Patorski and M. Rohde 343 (2005) 341

**Physical Properties** (*not listed elsewhere*)

- Assessment of cavitation–erosion resistance of 316LN stainless steel in mercury as a function of surface treatment, S.J. Pawel 343 (2005) 101

**Positron Annihilation**

- Temperature and dose dependences of radiation damage in modified stainless steel, S. Zhu, Y. Zheng, P. Ahmat, Y.

- Xu, D. Zhou, Z. Wang, E. Du, D. Yuan, Y. Zuo, Y. Ruan and X. Duan  
Positron annihilation lifetime spectroscopy on heavy ion irradiated stainless steels and tungsten, S. Zhu, Y. Xu, Z. Wang, Y. Zheng, D. Zhou, E. Du, D. Yuan, M. Fukuda, M. Mihara, K. Matsuta and T. Minamisono  
343 (2005) 325
- Proton Irradiation**
- Construction status of the J-PARC project, S. Nagamiya  
343 (2005) 1
- Current status of 1 MW pulse spallation neutron source (JSNS) of J-PARC, Y. Ikeda  
343 (2005) 7
- R&D works on high-power targetry for neutrino factories, K. Yoshimura  
343 (2005) 14
- Secondary beam production in the nuclear and particle physics facility in J-PARC, K. Agari, Y. Hayato, E. Hirose, A. Ichikawa, J. Imazato, T. Kobayashi, M. Minakawa, T. Nakadaira, K. Nishikawa, H. Noumi, T. Ooyabu, Y. Sato, Y. Suzuki, H. Takahashi, S. Ueda and Y. Yamanoi  
343 (2005) 27
- The second SINQ target irradiation program, STIP-II, Y. Dai, X. Jia, R. Thermer, D. Hamaguchi, K. Geissmann, E. Lehmann, H.P. Linder, M. James, F. Gröschel, W. Wagner and G.S. Bauer  
343 (2005) 33
- Summary of cavitation erosion investigations for the SNS mercury target, J.R. Haines, B.W. Riemer, D.K. Felde, J.D. Hunn, S.J. Pawel and C.C. Tsai  
343 (2005) 58
- Benchmarking dynamic strain predictions of pulsed mercury spallation target vessels, B.W. Riemer  
343 (2005) 81
- Thermal hydraulic design and decay heat removal of a solid target for a spallation neutron source, N. Takenaka, D. Nio, Y. Kiyanagi, K. Mishima, M. Kawai and M. Furusaka  
343 (2005) 169
- Mechanical properties and microstructure of AlMg<sub>3</sub> irradiated in SINQ Target-3, Y. Dai and D. Hamaguchi  
343 (2005) 184
- The high temperature three point bend testing of proton irradiated 316L stainless steel and Mod 9Cr-1Mo, S.A. Maloy, A. Zubelewicz, T. Romero, M.R. James, W.F. Sommer and Y. Dai  
343 (2005) 191
- DPA calculation for Japanese spallation neutron source, M. Harada, N. Watanabe, C. Konno, S. Meigo, Y. Ikeda and K. Niita  
343 (2005) 197
- Ductility recovery in structural materials for spallation targets by post-irradiation annealing, J. Chen, P. Jung, M. Rödiger, H. Ullmaier and G.S. Bauer  
343 (2005) 227
- The tensile properties of AISI 316L and OPTIFER in various conditions irradiated in a spallation environment, J. Chen, M. Rödiger, F. Carsughi, Y. Dai, G.S. Bauer and H. Ullmaier  
343 (2005) 236
- Annealing effects on mechanical properties and microstructure of F82H irradiated at  $\leq 60$  °C with 800 MeV protons, Y. Dai, X. Jia and S.A. Maloy  
343 (2005) 241
- Charpy impact tests on martensitic/ferritic steels after irradiation in SINQ target-3, Y. Dai and P. Marmy  
343 (2005) 247
- Tensile properties of austenitic stainless steels irradiated at SINQ target 3, S. Saito, K. Kikuchi, K. Usami, A. Ishikawa, Y. Nishino, M. Kawai and Y. Dai  
343 (2005) 253
- Radiation Effects: Atomic Defects**
- Temperature and dose dependences of radiation damage in modified stainless steel, S. Zhu, Y. Zheng, P. Ahmat, Y. Xu, D. Zhou, Z. Wang, E. Du, D. Yuan, Y. Zuo, Y. Ruan and X. Duan  
343 (2005) 325
- Positron annihilation lifetime spectroscopy on heavy ion irradiated stainless steels and tungsten, S. Zhu, Y. Xu, Z. Wang, Y. Zheng, D. Zhou, E. Du, D. Yuan, M. Fukuda, M. Mihara, K. Matsuta and T. Minamisono  
343 (2005) 330
- Radiation Effects: Extended Defects, Microstructures**
- Micro-hardness measurement and microstructure characterization of T91 weld metal irradiated in SINQ Target-3, X. Jia and Y. Dai  
343 (2005) 212
- Annealing effects on mechanical properties and microstructure of F82H irradiated at  $\leq 60$  °C with 800 MeV protons, Y. Dai, X. Jia and S.A. Maloy  
343 (2005) 241
- Microstructural study of EC316LN and its welds irradiated in SINQ target-3, D. Hamaguchi and Y. Dai  
343 (2005) 262
- Defect structural evolution in high purity tungsten irradiated with electrons using high voltage electron microscope, S. Fukuzumi, T. Yoshiie, Y. Satoh, Q. Xu, H. Mori and M. Kawai  
343 (2005) 308
- Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada  
343 (2005) 313
- Microstructural control to improve the resistance to radiation embrittlement in vanadium, H. Kurishita, T. Ku-

- wabara, M. Hasegawa, S. Kobayashi and K. Nakai 343 (2005) 318
- Radiation Effects: Mechanical Properties**
- An edge-cooled graphite target for J-PARC Muon Science Facility, Y. Miyake, S. Makimura, K. Nishiyama and K. Nagamine 343 (2005) 21
- Mechanical properties and microstructure of AlMg<sub>3</sub> irradiated in SINQ Target-3, Y. Dai and D. Hamaguchi 343 (2005) 184
- The high temperature three point bend testing of proton irradiated 316L stainless steel and Mod 9Cr-1Mo, S.A. Maloy, A. Zubelewicz, T. Romero, M.R. James, W.F. Sommer and Y. Dai 343 (2005) 191
- Micro-hardness measurement and microstructure characterization of T91 weld metal irradiated in SINQ Target-3, X. Jia and Y. Dai 343 (2005) 212
- Ductility recovery in structural materials for spallation targets by post-irradiation annealing, J. Chen, P. Jung, M. Rödiger, H. Ullmaier and G.S. Bauer 343 (2005) 227
- The tensile properties of AISI 316L and OPTIFER in various conditions irradiated in a spallation environment, J. Chen, M. Rödiger, F. Carsughi, Y. Dai, G.S. Bauer and H. Ullmaier 343 (2005) 236
- Annealing effects on mechanical properties and microstructure of F82H irradiated at  $\leq 60$  °C with 800 MeV protons, Y. Dai, X. Jia and S.A. Maloy 343 (2005) 241
- Charpy impact tests on martensitic/ferritic steels after irradiation in SINQ target-3, Y. Dai and P. Marmy 343 (2005) 247
- Tensile properties of austenitic stainless steels irradiated at SINQ target 3, S. Saito, K. Kikuchi, K. Usami, A. Ishikawa, Y. Nishino, M. Kawai and Y. Dai 343 (2005) 253
- Tensile properties of candidate structural materials for high power spallation sources at high helium contents, P. Jung, J. Henry and J. Chen 343 (2005) 275
- Radiation hardening and -embrittlement due to He production in F82H steel irradiated at 250 °C in JMTR, E. Wakai, S. Jitsukawa, H. Tomita, K. Furuya, M. Sato, K. Oka, T. Tanaka, F. Takada, T. Yamamoto, Y. Kato, Y. Tayama, K. Shiba and S. Ohnuki 343 (2005) 285
- Radiation Effects: Physical Properties**
- The effect of 800 MeV proton irradiation on the mechanical properties of tungsten at room temperature and at 475 °C, S.A. Maloy, M.R. James, W. Sommer Jr., G.J. Willcutt Jr., M. Lopez, T.J. Romero and M.B. Toloczko 343 (2005) 219
- Radiation Sources**
- Radiation damage conditions for ESS target hull and irradiation rigs, P. Vladimirov and A. Möslang 343 (2005) 205
- Recrystallization, Recovery and Grain Growth**
- Expansion of solidified lead bismuth eutectic, H. Glasbrenner, F. Gröschel, H. Grimmer, J. Patorski and M. Rohde 343 (2005) 341
- Refractory Metals, Alloys and Compounds** (*not listed elsewhere*)
- Tensile properties of candidate structural materials for high power spallation sources at high helium contents, P. Jung, J. Henry and J. Chen 343 (2005) 275
- Microstructural control to improve the resistance to radiation embrittlement in vanadium, H. Kurishita, T. Kuwabara, M. Hasegawa, S. Kobayashi and K. Nakai 343 (2005) 318
- Investigation of the compatibility of tungsten and high temperature sodium, Y.-L. Xu, B. Long, Y.-C. Xu and H.-Q. Li 343 (2005) 360
- Safety of Nuclear Reactors and Components**
- The tensile properties of AISI 316L and OPTIFER in various conditions irradiated in a spallation environment, J. Chen, M. Rödiger, F. Carsughi, Y. Dai, G.S. Bauer and H. Ullmaier 343 (2005) 236
- Segregation**
- Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313
- Steels, Austenitic**
- Benchmarking dynamic strain predictions of pulsed mercury spallation target vessels, B.W. Riemer 343 (2005) 81
- Estimation of pitting damage induced by cavitation impacts, H. Soyama, M. Futakawa and K. Homma 343 (2005) 116
- Characterization of a carburized surface layer on an austenitic stainless steel, K. Farrell, E.D. Specht, J. Pang, L.R. Walker, A. Rar and J.R. Mayotte 343 (2005) 123
- Modeling tensile response and flow localization effects in 316SS after exposure to spallation and fission irradiation environments, X. Wu, X. Pan, M. Li and J.F. Stubbins 343 (2005) 302

- Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313
- Temperature and dose dependences of radiation damage in modified stainless steel, S. Zhu, Y. Zheng, P. Ahmat, Y. Xu, D. Zhou, Z. Wang, E. Du, D. Yuan, Y. Zuo, Y. Ruan and X. Duan 343 (2005) 325
- Comparison of the corrosion behavior of austenitic and ferritic/martensitic steels exposed to static liquid Pb–Bi at 450 and 550 °C, Y. Kurata, M. Futakawa and S. Saito 343 (2005) 333
- Steels, Austenitic, Low C/N**
- Assessment of cavitation–erosion resistance of 316LN stainless steel in mercury as a function of surface treatment, S.J. Pawel 343 (2005) 101
- Fatigue properties of type 316LN stainless steel in air and mercury, J.P. Strizak, H. Tian, P.K. Liaw and L.K. Mansur 343 (2005) 134
- The tensile properties of AISI 316L and OPTIFER in various conditions irradiated in a spallation environment, J. Chen, M. Rödíg, F. Carsughi, Y. Dai, G.S. Bauer and H. Ullmaier 343 (2005) 236
- Tensile properties of candidate structural materials for high power spallation sources at high helium contents, P. Jung, J. Henry and J. Chen 343 (2005) 275
- Effect of ion irradiation and implantation of H and He on the corrosion behavior of austenitic stainless steel, Y. Nemoto, Y. Miwa, Y. Kaji and T. Tsukada 343 (2005) 313
- Steels, Austenitic, Stabilized**
- The second SINQ target irradiation program, STIP-II, Y. Dai, X. Jia, R. Thermer, D. Hamaguchi, K. Geissmann, E. Lehmann, H.P. Linder, M. James, F. Gröschel, W. Wagner and G.S. Bauer 343 (2005) 33
- Effect of proton beam profile on stress in JSNS target vessel, H. Kogawa, S. Ishikura, H. Sato, M. Harada, S. Takatama, M. Futakawa, K. Haga, R. Hino, S. Meigo, F. Maekawa and Y. Ikeda 343 (2005) 178
- Steels, Ferritic/Martensitic**
- The second SINQ target irradiation program, STIP-II, Y. Dai, X. Jia, R. Thermer, D. Hamaguchi, K. Geissmann, E. Lehmann, H.P. Linder, M. James, F. Gröschel, W. Wagner and G.S. Bauer 343 (2005) 33
- Improved cavitation resistance of structural materials in pulsed liquid metal targets by surface hardening, T. Koppitz, P. Jung, G. Müller, A. Weisenburger, M. Futakawa and Y. Ikeda 343 (2005) 92
- Annealing effects on mechanical properties and microstructure of F82H irradiated at  $\leq 60$  °C with 800 MeV protons, Y. Dai, X. Jia and S.A. Maloy 343 (2005) 241
- Charpy impact tests on martensitic/ferritic steels after irradiation in SINQ target-3, Y. Dai and P. Marmy 343 (2005) 247
- LiSoR irradiation experiments and preliminary post-irradiation examinations, H. Glasbrenner, Y. Dai and F. Gröschel 343 (2005) 267
- Tensile properties of candidate structural materials for high power spallation sources at high helium contents, P. Jung, J. Henry and J. Chen 343 (2005) 275
- Comparison of the corrosion behavior of austenitic and ferritic/martensitic steels exposed to static liquid Pb–Bi at 450 and 550 °C, Y. Kurata, M. Futakawa and S. Saito 343 (2005) 333
- Steels, Ferritic/Martensitic, Low Activation**
- Micro-hardness measurement and microstructure characterization of T91 weld metal irradiated in SINQ Target-3, X. Jia and Y. Dai 343 (2005) 212
- Radiation hardening and -embrittlement due to He production in F82H steel irradiated at 250 °C in JMTR, E. Wakai, S. Jitsukawa, H. Tomita, K. Furuya, M. Sato, K. Oka, T. Tanaka, F. Takada, T. Yamamoto, Y. Kato, Y. Tayama, K. Shiba and S. Ohnuki 343 (2005) 285
- Structural Materials**
- Ductility recovery in structural materials for spallation targets by post-irradiation annealing, J. Chen, P. Jung, M. Rödíg, H. Ullmaier and G.S. Bauer 343 (2005) 227
- Surface Effects**
- Summary of cavitation erosion investigations for the SNS mercury target, J.R. Haines, B.W. Riemer, D.K. Felde, J.D. Hunn, S.J. Pawel and C.C. Tsai 343 (2005) 58
- Assessment of cavitation–erosion resistance of 316LN stainless steel in mercury as a function of surface treatment, S.J. Pawel 343 (2005) 101
- Estimation of pitting damage induced by cavitation impacts, H. Soyama, M. Futakawa and K. Homma 343 (2005) 116



- Characterization of a carburized surface layer on an austenitic stainless steel, K. Farrell, E.D. Specht, J. Pang, L.R. Walker, A. Rar and J.R. Mayotte 343 (2005) 123
- Metallurgical study on erosion and corrosion behaviors of steels exposed to liquid lead–bismuth flow, M. Kondo, M. Takahashi, T. Suzuki, K. Ishikawa, K. Hata, S. Qiu and H. Sekimoto 343 (2005) 349
- Swelling: Metals and Alloys**
- Temperature and dose dependences of radiation damage in modified stainless steel, S. Zhu, Y. Zheng, P. Ahmat, Y. Xu, D. Zhou, Z. Wang, E. Du, D. Yuan, Y. Zuo, Y. Ruan and X. Duan 343 (2005) 325
- Theory and Modelling**
- Radiation damage conditions for ESS target hull and irradiation rigs, P. Vladimirov and A. Möslang 343 (2005) 205
- Thermal Shock**
- Summary of cavitation erosion investigations for the SNS mercury target, J.R. Haines, B.W. Riemer, D.K. Felde, J.D. Hunn, S.J. Pawel and C.C. Tsai 343 (2005) 58
- Benchmarking dynamic strain predictions of pulsed mercury spallation target vessels, B.W. Riemer 343 (2005) 81
- Effect of proton beam profile on stress in JSNS target vessel, H. Kogawa, S. Ishikura, H. Sato, M. Harada, S. Takatama, M. Futakawa, K. Haga, R. Hino, S. Meigo, F. Maekawa and Y. Ikeda 343 (2005) 178
- Thermodynamic Properties**
- Thermal hydraulic design and decay heat removal of a solid target for a spallation neutron source, N. Takenaka, D. Nio, Y. Kiyonagi, K. Mishima, M. Kawai and M. Furusaka 343 (2005) 169
- Tungsten, Tungsten Alloys and Compounds**
- The second SINQ target irradiation program, STIP-II, Y. Dai, X. Jia, R. Thermer, D. Hamaguchi, K. Geissmann, E. Lehmann, H.P. Linder, M. James, F. Gröschel, W. Wagner and G.S. Bauer 343 (2005) 33
- Neutronics performance and decay heat calculation of a solid target for a spallation neutron source, D. Nio, M. Ooi, N. Takenaka, M. Furusaka, M. Kawai, K. Mishima and Y. Kiyonagi 343 (2005) 163
- Thermal hydraulic design and decay heat removal of a solid target for a spallation neutron source, N. Takenaka, D. Nio, Y. Kiyonagi, K. Mishima, M. Kawai and M. Furusaka 343 (2005) 169
- The effect of 800 MeV proton irradiation on the mechanical properties of tungsten at room temperature and at 475 °C, S.A. Maloy, M.R. James, W. Sommer Jr., G.J. Willcutt Jr., M. Lopez, T.J. Romero and M.B. Toloczko 343 (2005) 219
- Defect structural evolution in high purity tungsten irradiated with electrons using high voltage electron microscope, S. Fukuzumi, T. Yoshiie, Y. Satoh, Q. Xu, H. Mori and M. Kawai 343 (2005) 308
- Vanadium, Vanadium Alloys and Compounds**
- Microstructural control to improve the resistance to radiation embrittlement in vanadium, H. Kurishita, T. Kuwabara, M. Hasegawa, S. Kobayashi and K. Nakai 343 (2005) 318
- X-ray Techniques and Applications**
- Characterization of a carburized surface layer on an austenitic stainless steel, K. Farrell, E.D. Specht, J. Pang, L.R. Walker, A. Rar and J.R. Mayotte 343 (2005) 123