Chapter 4 Research under Collaboration Programs

1. Collaborative Research

(1) Visiting Researcher Program

N : New / C ; Continued

No	N or C	Title	Leader			Stuff Member of IMR	
			Institution	Status	Name	Responsible Professor	Stuff member
101	C	Quantum transport in p-, d-, and f-wave superconductors	Grad. Sch. of Engin., Hokkaido Univ.	Chief Engr.	Yasuhiro Asano	Sadamichi Maekawa	Sadamichi Maekawa
102	C	Numerical simulation of nanofabricated superconductors	Grad. Sch. of Engin., Osaka Pref. Univ.	Assoc. Prof.	Masaru Kato	Sadamichi Maekawa	Tomio Koyama
103	C	Study of anomalous metallic phase and orbital degree of freedom in transition metal oxides	Grad. Sch. of Sci., Tohoku Univ.	Assoc. Prof.	Sumio Ishihara	Sadamichi Maekawa	Sadamichi Maekawa
104	N	Structureal analysis of semidoncuctor nano dots and their arrays	International Innovation Center, Kyoto Univ.	Prof.	Shojiro Ochiai	Kazuo Nakajima	Noritaka Usami
105	C	Formation mechanisms of microscopic compositional distribution during melt growth	Grad. Sch. of Sci., Nagoya Univ.	Assoc. Prof.	Makio Uwaha	Kazuo Nakajima	Kazuo Nakajima
106	N	Fablication of SiGe heterostructures and evaluation of their electric and optical properties	Grad. Sch. of Engin., The Univ. of Tokyo	Prof.	Masakazu Ichikawa	Kazuo Nakajima	Noritaka Usami
107	N	Control of strain in IV semiconductor crystals and their device application	Interdisciplinary Grad. Sch. of Med. and Engin., Univ. of Yamanashi	Prof.	Kiyokazu Nakagawa	Kazuo Nakajima	Noritaka Usami
108	N	Effect of a magnetic field on the growth of organic semiconductor thin film crystals	Fac. of Engin., The Univ of Tokushima.	Chief Engr.	Shin-ichiro Yanagiya	Kazuo Nakajima	Gen Sazaki
109	N	Kinetic studies on micro-morphology on glucose isomerase crystals	Fac. of Engin., The Univ of Tokushima.	Chief Engr.	Yoshihisa Suzuki	Kazuo Nakajima	Gen Sazaki
110	N	Effect of a mangetic field on the crystallization of ripid crystals	Grad. Sch. of Biosphere Sci., Hiroshima Univ.	Assoc. Prof.	Satoru Ueno	Kazuo Nakajima	Gen Sazaki
111	C	Microscopic structural analysis of III-V-N crystalline semiconductor	Grad. Sch. of Engin., Saitama Univ.	Assoc. Prof.	Hiroyuki Yaguchi	Kazuo Nakajima	Noritaka Usami
112	C	Direct observation of dopants by STM barrier height imaging	Kyoto Univ.	Prof.	Akira Sakai	Toshio Sakurai	Toshio Sakurai
113	N	Study of work function of Pt field emitters	Osaka Pref. Univ.	Assoc. Prof.	Toyo Sakata	Toshio Sakurai	Toshio Sakurai
114	N	Probe shape control for high-resolution imaging in non-contact atomic force microscopy	Univ. of Tokyo	Assoc. Prof.	Yukio Hasegawa	Toshio Sakurai	Toshio Sakurai
115	N	Study of substitution effect in high-Tc superconductors by LT-STM/STS	Saga Univ.	Lectr.	Makoto Maki	Norio Kobayashi	Terukazu Nishizaki
116	N	Effect of low-frequency electro-magnetic and static magnetic fields on biomolecules	Univ. of Tokyo	Assoc. Prof.	Atsutaka Maeda	Norio Kobayashi	Norio Kobayashi

No	N or C	Title	Leader			Stuff Member of IMR	
			Institution	Status	Name	Responsible Professor	Stuff member
117	N	Vortex solid state of high-Tc superconductor La2-XSrxCuO4	Jpn Adv. Inst of Sci. and Tech.	Assoc. Prof.	Hideo Iwasaki	Nori Kobayashi	Norio Kobayashi
118	C	Vortex phase diagram of Y1248	Osaka Prefcture Univ.	Prof.	Takekazu Ishida	Norio Kobayashi	Nori Kobayashi
119	C	Fabrication and NMR measurements of nanocluster thin films	Tokyo Metropolitan Univ.	Assoc. Prof.	Yutaka Maniwa	Yoshihiro Iwasa	Yoshihiro Iwasa
120	N	Electron conduction of nanostructured materilas using nanoscale electrodes	Riken	Res.	Kazuhito Tsukagoshi	Yoshihiro Iwasa	Yoshihiro Iwasa
121	N	Electronic properties and Raman spectroscopy in layered nitride chloride superconductors	Hiroshima Univ.	Prof.	Shoji Yamanaka	Yoshihiro Iwasa	Yoshihiro Iwasa
122	N	Electronic properties of metallofulleene encapsulated carbon nanotubes	Tokyo Met. Univ.	Chief Engr.	Takeshi Kodama	Yoshihiro Iwasa	Yoshihiro Iwasa
123	N	Effect of interface modification of fullerene nanodevice	JAIST	Assoc. Prof.	Akihiko Fujiwara	Yoshihiro Iwasa	Yoshihiro Iwasa
124	N	Crystal Structures and Ion Conduction Paths in Oxides	Tokyo Inst. of Tech.	Assoc. Prof.	Masatomo Yashima	Kazuyoshi Yamada	Kenji Ohoyama
125	N	Study of Spin fluctuations in electron deped high-Tc Superconductors	Kyoto Univ.	Assoc. Prof.	Kenji Ishida	Kazuyoshi Yamada	Kazuyoshi Yamada
126	N	Study of Superexchange Interactions in Hexiagonal Ferites by Neutron Diffraction Technique	Tokyo Univ. of Sci.	Prof.	Nobuyuki Momosawa	Kazuyoshi Yamada	Kenji Ohoyama
127	C	lattice defects in II-VI compound semiconductors	Miyazaki Univ. Faculty of Engin.	Assoc. Prof.	Yoshino Kenji	Masashi Suezawa	Ichiro Yonenaga
128	C	Mechanical strength and dynamic behavior of dislocations in heavily impurity doped silicon crystals	Shinshu Univ. Fac. of Educ.	Prof.	Hoshikawa Keigo	Masashi Suezawa	Ichiro Yonenaga
129	N	Investigation of physical property and reactivity of transition metal clusters for new materials development	TOYOTA THCHNOL INST.	Prof.	Tamotu Kondo	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
130	N	Evaluation of structure and property of cement hydrate by ab initio molecular dynamics	Akita Nat. Coll. of Tech.	Assoc. Prof.	Ryoji Sakurada	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
131	C	Study on structure and reactivity of transition metal nanoclusters	AIST	Gr. Leader	Junichi Murakami	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
132	N	Electronic state and optical property of metal oxide semiconductor cluster aggregates	Nagoya Inst. of Tech.	Prof.	Kenji Sumiyama	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
133	C	Study on structure and property of new polyhedral nanocarbon system	Tokyo Inst. of Tech.	Assoc. Prof.	Jun Onoe	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
134	C	Ab initio calculation of photoelectron spectrum	Yokohama Nat. Univ.	Prof.	Kaoru Ouno	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
135	C	Structure and function of biopolymer: For application to new materials	Hirosaki Univ.	Chief Engr.	Akito Taneda	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
136	N	Study on atomic structure and physical property of B-C-N based nanomaterials	Osaka Univ.	Assoc. Prof.	Takeo Oku	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
137	N	Study on development of new materials based on nobel function of nanoclusters	NIMS	Senr. Res.	Hiroshi Nejo	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe

No	N or C	Title	Leader			Stuff Member of IMR	
			Institution	Status	Name	Responsible Professor	Stuff member
138	N	Theoretical prediction and experimental proof of absorption spectrum of supercritical water in THz region	Inst. for Mol. Sci.	Assoc. Prof.	Nobuhiko Sarukura	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
139	N	Development of large scale ab initio method and prediction of physical property of ferroelectrics	Hiroshima Univ.	Prof.	Tamio Oguchi	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
140	N	Functional development by controled nanostructure in condensed matter	Yamaguchi Univ.	Prof.	Mitsuru Matsuura	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
141	N	Electronic structure and conductance of conducting polymer covered by molecules	Tokyo Univ.	Prof.	Kouzo Ito	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
142	N	Study on realization of functional clusters by nanostructured pattern	NIMS	Dir.	Kazushi Miki	Yoshiyuki Kawazoe	Yoshiyuki Kawazoe
143	N	Study of artificial lattice structures of Au/Mn, Pt/Mn by RBS	Fac. of Engin., Yamaguchi Univ.	Assoc. Prof.	M.Nakayama	Tatsuo Shikama	Shinji Nagata
144	N	In-situ study of incarnation process of functional properties related with ion-induced luminescence	Grad. Sch. of Engin., Nagoya Univ.	Assoc. Prof.	T.Yoshida	Tatsuo Shikama	Shinji Nagata
145	N	Formation of carbon needles from fluoropolymer by ion irradiation and defluorination	Riken	Res.	T.Kobayashi	Tatsuo Shikama	Shinji Nagata
146	N	Study on structures and mgnetism of nano-crystals of La doped CaB6	Grad. Sch. of Engin., Tohoku Univ.	Assoc. Prof.	H.Kato	Tatsuo Shikama	Shinji Nagata
147	N	Formation processes and properties of redeposited layers through plasma-wall interaction	Res. Inst. of Appl. Mech., Kyushu Univ.	Assoc. Prof.	Kazutoshi Tokunaga	Tatsuo Shikama	Shinji Nagata
148	C	Growth process of nano-clusters in ion-implanted single crystals	Fac. of Engin. and Design, Kyoto Inst. of Tech	Prof.	Kasumi Kawatsura	Tatsuo Shikama	Shinji Nagata
149	N	Study on formation of non-stoichiometric nitrides of silicon and titanium by ion-implantation	Internat. Stud. Center, Tohoku Univ.	Assoc. Prof.	Yoshitaka Kasukabe	Tatsuo Shikama	Shinji Nagata
150	N	Study on formation of ultra-fine-grain steels by ion irradiation	Nat. Inst. for Mat. Sci.	Senr. Res.	Mitsuhiro Murayama	Tatsuo Shikama	Shinji Nagata
151	C	Effects of Impurities and Post-weld Heat Treatments on the Weldability of Vanadium Alloys	Nat. Inst. for Fusion Sci.	Prof.	Takeo Muroga	Hideki Matsui	Hideki Matsui
152	N	InGaAsN/GaAs quantum structures grown on GaAs polar surfaces	Hirosaki Univ.	Prof.	Masao Mashita	Takafumi Yao	Takafumi Yao
153	C	Growth of oxide semiconductos and conductivity control	Yamanashi Univ.	Prof.	Shun Matsumoto	Takafumi Yao	Takafumi Yao
154	C	Spintronics of II-VI compound-based ferromagnetic semiconductors	Osaka Univ.	Prof.	Hiroshi Yoshida	Takafumi Yao	Takafumi Yao
155	N	Strain evaluation of multilayer cross section	Hosei Univ., Fac. of engin.	Prof.	Shinji Takayama	Eiichiro Matsubara	Eiichiro Matsubara
156	C	X-ray fluorescence holography study of high Tc oxide superconductor irradiated by heavy ion	Univ. of Hyogo, Grad. Sch. of engin.	Lectr.	Tsuguhisa Sekioka	Eiichiro Matsubara	Koichi Hayashi

No	N or C	Title	Leader			Stuff Member of IMR	
			Institution	Status	Name	Responsible Professor	Stuff member
157	N	Structural study of carbide corting materials	Osaka Pref. Univ., Grad. Sch. of engin.	Lectr.	Masaki Narusawa	Eiichiro Matsubara	Tomoaki Kamiyama
158	C	Structural study of stressed wood cell by X-ray small angle scattering	Miyagi Univ. of educ.	Prof.	Hiroshi Suzuki	Eiichiro Matsubara	Tomoaki Kamiyama
159	N	Study on dynamics of metallic glasses	Kyoto Univ., Grad. Sch. of engin.	Assoc. Prof.	Hiroshi Numakura	Eiichiro Matsubara	Eiichiro Matsubara
160	N	Local structural study of Ge:Sn dot on Si(100) by X-ray fluorescence holography	Hiroshima city Univ., Fac. of inf. Sci.s	Chief Engr.	Naohisa Happo	Eiichiro Matsubara	Koichi Hayashi
161	C	Shock compression of GaSiO3-MgSiO3 system glass	Fac. of Sci., Kanazawa Univ.	Prof.	Masayuki Okuno	Masashi Kawasaki	Toshiyuki Atou
162	C	Shock compression of oxide superconductor particles for a magnetic sensor	Sch. of Bionics, Tokyo Univ. of Tech.	Assoc. Prof.	Hiroshi Kezuka	Masashi Kawasaki	Masashi Kawasaki
163	C	Fabrication and structural characterization of integrated device and materials libraries	Frontier Collaborative Res. Center, Tokyo Inst. of Tech.	Lectr.	Yuji Matsumoto	Masashi Kawasaki	Masashi Kawasaki
164	C	Study of optical transition process and point defects in ZnO thin films and related semiconductor materials	Inst. of Appl. Phys., Univ. of Tsukuba	Assoc. Prof.	Sigefusa Chichibu	Masashi Kawasaki	Masashi Kawasaki
165	C	Lattice mismatch engineering of oxide heterostructures.	The Inst. for Solid State Phys., Univ. of Tokyo	Assoc. Prof.	Mikk Lippmaa	Masashi Kawasaki	Masashi Kawasaki
166	N	Combinatorial synthesis and analysis of functional thin films with wurtzite structure	Fac. of Engin., Sizuoka Univ.	Chief Engr.	Masatomo Sumiya	Masashi Kawasaki	Masashi Kawasaki
167	C	Analytical study of surface electronic states in strongly correlated electron nanostructures	Sch. of Engin. , Univ. of Tokyo	Chief Engr.	Hiroshi Kumigasira	Masashi Kawasaki	Masashi Kawasaki
168	N	Combinatorial exploration of novel double ferroic materials	Sch. of Sci., Univ. of Tokyo	Prof.	Tetsuya Hasegawa	Masashi Kawasaki	Masashi Kawasaki
169	C	In-Situ Observations of Deformation and Fracture of Metallic Glasses	Grad. Sch. of Engin., Osaka Pref. Univ.	Prof.	Kenji Higashi	Akihisa Inoue	Akihis Inoue
170	C	Deformation Structue and Controlling of Cold-Rooled Metallic Glasses and Improvements of Their Mechanical Properties	Grad. Sch. of Engin., Hyogo Inst. of Tech.	Lectr.	Yoshihiko Yokoyama	Akihisa Inoue	Akihis Inoue
171	N	Micro-Tribology of Metallic Glasses	Fac. of Engin., Aichi Inst. of Tech.	Assoc. Prof.	Makoto Takagi	Akihisa Inoue	Akihis Inoue
172	N	Surface Design for Tribological Properties of Metallic Glasses	Grad. Sch. of Engin., Osaka Pref. Univ.	Assoc. Prof.	Masato Tsujikawa	Akihisa Inoue	Hisamichi Kimura
173	N	Viscosity measurements of liquid and supercooled liquid alloys having bulk metallic glass forming ability	Grad. Sch. of Engin., Univ. of Hyogo	Assoc. Prof.	Tohru Yamasaki	Akihisa Inoue	Hisamichi Kimura
174	C	Electrical property of bulk metallic glass dispersed superconducting phase	Grad. Sch. of Engin., Univ. of Hyogo	Chief Engr.	Daisuke Okai	Akihisa Inoue	Hisamichi Kimura
175	N	Development of Magnetically Driven Composite Actuator Material Utilizing Super Elasticity and Ferromagnetic Properties	Fac. of Sci. and Engin., Hirosaki Univ.	Prof.	Yasufumi Furuya	Akihisa Inoue	Hisamichi Kimura

No	N or C	Title	Leader			Stuff Member of IMR	
			Institution	Status	Name	Responsible Professor	Stuff member
176	N	Studies on Nano-Deformaiton Properties of Metallic Glasses	Grad. Sch. of Engin., Gunma Univ.	Prof.	Yasunori Saotome	Akihisa Inoue	Akihis Inoue
178	C	Current-driven domain wall motion in FePt submicron wires	Osaka Univ.	Assoc. Prof.	Teruo Ono	Koki Takanashi	Koki Takanashi
179	N	Phonon in PtFe thin films for future magnetic recording media	Waseda Univ.	Prof.	Yorihiko Tsunoda	Koki Takanashi	Koki Takanashi
180	C	Magnetism and electronic structures of artificial ordered alloy films by alternate monatomic layer deposition	Osaka Univ.	Assoc. Prof.	Shin Imada	Koki Takanashi	Koki Takanashi
181	N	Preparation and physical properties of Fe3Zr single crystals	Yamagata Univ.	Prof.	Hiroaki Morita	Koki Takanashi	Toshiyuki Shima
183	N	Study on the growth mechanism of oxide crystals consisting of complex components	Fac. of Educ., Shinshu Univ.	Prof.	Keigo Hoshikawa	Satoshi Uda	Satoshi Uda
184	N	Elucidation of the factor affecting to melting point of alanates	Fac. of Engin., Kansai Univ.	Full-time Lectr.	Hiroyuki Takeshita	Kazumasa Togano	Shin-ichi Orimo
185	C	Hydrogenation and property variation of thin-film rare-earth metals	Inst. for Solid State Phys., Univ. of Tokyo	Assoc. Prof.	Yoshiya Uwatoko	Kazumasa Togano	Shin-ichi Orimo
186	C	High-temperature thermal properties of Mn and Co transition metal oxides	Fac.of Engin., Iwate Univ.	Assoc. Prof.	Hiroyuki Fujishiro	Takashi Goto	Takashi Goto
187	N	Preparation of metal thin films for hydrogen separation membrane and their properties	AIST	Senr. Res.	Masakazu Mukaida	Takashi Goto	Takashi Goto
188	N	Preparation and properties of diverse magnetic ion added ß-FeSi2 films	AIST	Gr. Leader	Takshi Okutani	Takashi Goto	Takashi Goto
189	N	Synthesis and characterization of new low-valence transition metal oxides	Interdisciplinary Grad. Sch. of Med. and Engin., Yamanashi Univ.	Prof.	Nobuhiro Kumada	Takashi Goto	Takashi Goto
190	N	Characterization of thermoelectric property for low-dimentional oxide	Center for Interdisciplinary Res., Tohoku Univ.	Prof.	Hisanori Yamane	Takashi Goto	Hiroshi Masumoto
191	N	prepration fo Bi-Ge-Te compound	Dept. Engin., Kogakuin Univ.	Chief Engr.	Hitoshi Kori	Takashi Goto	Takashi Goto
192	N	Development of New Refractory Alloy Capacitors	Osaka Pref. Univ.	Chief Engr.	Satoshi Semboshi	Shuji Hanada	Shuji Hanada
193	N	Microstructure Control and Superconducting Properties of Bulk- and Tape-shaped Bi-2223 Superconductor Fabricated from Powder Prepared by Coprecipitation Method	Akita Univ.	Prof.	Akihiko Nagata	Shuji Hanada	Shuji Hanada
194	C	Microstructure and Mechanical Properties of Cr2X-base Laves Intermetallics	Osaka Pref. Univ.	Prof.	Takayuki Takasugi	Shuji Hanada	Shuji Hanada
195	N	Wear Behavior and Surface Structure of Dental Metallic Materials	Nagasaki Univ.	Chief Engr.	Eri Miura	Shuji Hanada	Shuji Hanada
196	C	Synthesis of Fe Aluminide-base Multi-phase Composites Prepared from Reused/Recycled Materials and Their Mechanical Properties	Chiba Univ.	Chief Engr.	Takaomi Itoi	Shuji Hanada	Shuji Hanada
197	N	Fabrication of High Performance Artificial Human Bone by Integration of Biocompatible Porous Metal and Polymer	Iwate Univ.	Assoc. Prof.	Naoyuki Nomura	Shuji Hanada	Naoya Masahashi

No	N or C	Title	Leader			Stuff Member of IMR	
			Institution	Status	Name	Responsible Professor	Stuff member
198	C	Development of supercritical water method for decomposition of non-flammable□organic materials of low-level radioactive wastes	Shinshu Univ., Faculty of Engin.	Prof.	Tomiyasu Hiroshi	Shiokawa Yoshinobu	Yamamura Tomoo
199	N	Study on achievement mechanism of high-pressure shock residual magnetization	Nat. Inst. of Polar Res.	Assoc. Prof.	Minoru Funaki	Masashi Kawasaki	Toshiyuki Atou
200	N	Single-crystal Growth of Layered R-Ni-Ge Ternary Compounds	Dept. of Phys., Kyushu Univ.	Prof.	Gendo Oomi	Yoshinobu Shiokawa	Isamu Satoh
201	C	Improvement in depth resolution of elemental analysis in radio-frequency-powered glow discharge optical emission spectrometry	Tohoku Univ., Inst. of Multidisciplinary Res. for Adv. Mat.	Assoc. Prof.	Shigeru Suzuki	Kazuaki Wagatsuma	Kazuaki Wagatsuma
202	C	Developnent of new on-site analytical method by using high-power microwave induced plasma	Toyo Univ., Fac. of Engin.	Prof.	Yokio Okamoto	Kazuaki Wagatsuma	Kazuaki Wagatsuma
203	N	Study on advanced spark-discharge optical emission spectrometry aimed for rapid analysis of non-metallic elements in ultra clean steel	Res. Center for Adv. Energy Conversion, Nagoya Univ.	Prof.	Kuniyuki Kitagawa	Kazuaki Wagatsuma	Hideyuki Matsuta
204	N	Study of Electrocnic structure of (Sr,La)(Nb,Ta)O3	Kyushu Inst. of Tech.	Prof.	Shigemi Kohiki	Kazuaki Wagatsuma	Masaoki Oku
205	N	Structiral, electrical and optical chracterization of silicon nanomaterials for advanced semiconductor	Optoelectronic Nanomaterials Group, Nanomaterials Lab., Nat. Inst. for Mat. Sci.	Dir.	Takashi Sekiguchi	Kunio Takada	Kunio Takada
206	N	Experimental Investigation of the Magnetism on Heavy Fermion Superconductors under High Magentic Fields	Fac. of Engin. and Resource Sci., Akita Univ.	Assoc. Prof.	Takuo Sakon		Isamu Satoh
207	N	Fundamental Radiation Damage Study for Life Evaluation of LWR-PVS	Kyoto Univ.	Prof.	Akihiko Kimura	Hideki Matsui	Hideki Matsui
208	N	Study of Contribution of Interstitial Atoms to Cu Precipitation in Fe-Cu Alloy	Kyushu Univ.	Prof.	Eiichi Kuramoto	Masayuki Hasegawa	Masayuki Hasegawa
209	N	Deformation Behavior of Model Alloys of Reactor Pressure Vessel Steels	Kyoto Univ.	Prof.	Toshimasa Yoshiie	Hideki Matsui	Hideki Matsui