Proceedings of Civil Engineering in the Ocean VOL.13 1997

DEVELOPMENT OF ARMOR BLOCKS TO USE FOR SUBMERGED	Hideaki OKUZONO, Takayuki ABE,	1-5
BREAKWATERS IN LARGE TIDAL ZONES	Akihiro YAJIMA, Hiroaki GAHARA	1 3
CHARACTERRISTICS OF TIDAL LEVEL AND CROWN HEIGHT OF	Hirosi OKAMOTO, Hideaki	7-12
SUBMERGED BREAKWATERS	OKUZONO	/ 12
CHANGE OF BIOTA AFTER CONSTRUCTION OF HIGH CREST SUBMERGED	Kenji YANO, Yasuji YAMAMOTO,	
BREAKWATER	Sadamitsu AKETA, Akira	13-18
DREANWATER	WATANUKI, Atsushi HASEGAWA,	
WAVE PROPERTIES AROUND DELTA-TYPE REEF AND CRESCENT-TYPE	Susumu NAKANO, Yasufumi	10.04
SUBMERGED MOUND FOR ENJOYING SURF-RIDING	TAKATA, Toyoaki Mishima, Hirosi	19-24
OTUDIES ON A NEW TYPE OF A DIFFICIAL DEEP DREAMWATERS	Shohachi KAKUNO, Nobuyuki	05.00
STUDIES ON A NEW TYPE OF ARTIFICIAL REEF BREAKWATERS	SASAI, Masao ENDOH	25-30
COMPARISON OF LATERAL AND LONGITUDINAL ARTIFICIAL REEF	Yoshimi GODA, Hiroshi TAKAGI	31-36
	Masayoshi KUBO, Masanori	
BASIC RESEARCH ON PROGRESSING SAFETY OF A SEA BERTH IN OPEN	TSUGANE, Kenji SASA, Toyotaka	37-42
SEA AND A BERTH OPERATION SUPPORT SYSTEM	NARITA, Shigeki SAKAKIBARA	٠,
	Yasuo MATSUNAGA, Hiroshi	
HIGH EARTHQUAKE RESISTSNT QUAY WALL OF EMBEDDED STEEL-PLATE	KIMURA, Koji HASHITSUME,	
ICELL STRUCTURE	Tsuguru HOSHIKA, Akira	43-48
OLLE STROOTORE	MATSUDA, Masayuki YUKAWA	
	Natsuhiko OTSUKA, Satoru	
CEICNIC DAMAGE TO ODAVITY TYPE OHAY WALL AND ITS SEISMIC DESIGN	,	40 54
SEISMIC DAMAGE TO GRAVITY TYPE QUAY WALL AND ITS SEISMIC DESIGN	KURITA, Takahiko SASAJIMA,	49-54
THE DEGICAL METHOD OF A PHITMENITO CHIPDODTED BY DATTED BY	Syuichi MIYABE, Kinya MIURA	
THE DESIGN METHOD OF ABUTMENTS SUPPORTED BY BATTER PILES	Toru KOMATSUBARA, Takeo	55-60
AGAINST AN EARTHQUAKE	ASANUMA, Katsuyuki SHIROUZU	
DESIGN EVALUATION OF OFFSHORE BERTH AFTER 24 YEARS OPERATION	Haruo YAMAMOTO, Seiji OHGISHI,	61-66
	Masaharu KOBAYASHI	
MEASUREMENT OF THE UNEVENNESS OF SEA BOTTOM BY AN	Junichi AKIZONO, Toshinari	
UNDERWATER WAIKING ROBOT	TANAKA, Eiji SATOH, Tomohiro	67–70
	KENMOCHI, Katsuei NAKAGAWA	
A PROPOSAL OF A NEW PLANNING METHOD OF MARINE RECREATIONAL	Yasuo SHIMAKURA, Hironobu ITO,	71-76
FACILITIES FOR PLEASURE BOATS	Masaru KOJIMA	71 70
A CHALLENGE OF SUSTAINABLE DEVELOPMENT IN PORTS AND	Koji SAKAI, Takahiro BABA, Kazuo	77-80
HARBOURS -CONSTRUCTION OF TIDAL FLAT IN PORT OF MIKAWA-	ITO	77 00
PRESENT DEVELOPMENT AND UTILIZATION OF ARTIFICIAL ISLANDS IN	Mitsunari HIRASAWA, Hisao	81-85
JAPAN	HIRAO, Kazunari SAIDA	01-00
ACHIEVEMENT EVALUATION OF THE CONCEPTION ON AN OFFSHORE	Toshiya KYONO, Hiromichi SATO,	
THERMAL POWER PLANT THAT UTILIZES THE SPACE UNDER SURFACE OF	Akira SHIDAI, Tetuya KAWAMURA,	87-92
WATER	Koji MIYAMOTO	
FEFFORE OF LABOR COALE PEOLAMATION ON PENTILOS	Tetsuo SAKAI, Hidetsugu	00.00
EFFECTS OF LARGE SCALE RECLAMATION ON BENTHOS	MATSUMOTO, Nobuyuki IINUMA	93-98
SEASHORE WALK COMMEMORATING NATIONAL HOLIDAY OF 'SEA DAY'	Takaaki UDA, Nobuo SAKURAI,	00.404
AND ITS PERSPECTIVE	Hitoshi IKEDA	99-104
THE TURBID WATERS OF THE SEA OF OKHOTSK	Yoshitsugu HIROSAKI	105-110
HEAVY OIL SPILLS IN MIKUNI, SUZU AND TSUSHIMA	Nobuo SAKURAI	111-116
EFFECT OF THE MULTI-DIRECTIONALITY ON THE WAVE FIELD IN FRONT		
OF STRUCTURE	Tetsu MEMITA, Tetsuo SAKAI	117-122
WAVE ANALYSIS IN HARBORS FOR RANDOM WAVES WITH BOUNDARY	Koichi KUDO, Ken-ichiro	
ELEMENT METHOD	HAMANAKA	123-127
WAVE FIELD NEAR AN OPENING WITH OPEN BOUNDARY CONDITION FOR	Keiji NOMURA, Ken-ichiro	
BEM	HAMANAKA	129-134
RESONANCE OF WATER WAVES ON A RECTANGULAR STEP	Yoshimi GODA, Masafumi SAITO	135-140
THE STATE OF THE THE ON THE OWN THE OWN THE	Tetsuya HIRAISHI, Hideyoshi	100 170
OBSERVATION OF LONG PERIOD WAVES IN KASIMA-PORT	FUJISAKU, Mitsutaka KONDOH,	141-146
OBSERVATION OF LONG FEMILION WAVES IN MASIMIA FOR	Tsuneo SATOH, Kouichi	171 140
	Youichi ATSUMI, Yosiki	
	WAKAYAMA, Atushi KUNITA, Shin-	
CHARACTERISTICS OF LONG PERIOD WAVES BY FIELD OBSERVATION AND		147_150
STATISTICAL ANALYSIS OF IT'S PROPAGATION IN HARBAR	ichirou SEKIGUCHI, Katsutoshi	147–152
	KIMURA, Tsutomu KAWAGUCHI,	
ANALYCIC AND EVDEDIMENT FOR A DIMANE FIELD ABOUND A FLEXES	Tetsuya HIRAISHI	
ANALYSIS AND EXPERIMENT FOR 3-D WAVE FIELD AROUND A FLEXIBLE	Koji HASHIMOTO, Yukio SATO,	153-158
SHEET	Ken-ichiro HAMANAKA	
NUMERICAL MODELING OF WAVE-CURRENT INTERACTIONS USING	Mohammad MOHIUDDIN, Hiroyoshi	159-164
EXTENDED BOUSSINESQ EQUATIONS	TOGASHI, Xiping YU	
TRANSPORT TO A COAST ECOSYSTEM OF A NUTRIENTS BY THE	Masabumi SETO, Shinya OTAKE,	165-170
INTERNAL WAVES	Zyuichi OKUNO, Makoto	. 55 176
SURF-SITE CHARACTERISTICS AND PLANNING REQUIREMENT	Toshinori ISHIKAWA, Toshitsugu	171-176
	SAKOU	.,,0
ANALYSIS ON WAVE TRANSFORMATIONS AND WAVE FORCES ABOUT AN	Takayuki NAKAMURA, Yoshihiko	177-182
ANGULAR BODY CONSIDERING WAVE ENERGY DISSIPATIONS	IDE	177 102
THE ESTABLISHMENT OF AUTOMATIC CALCULATION SYSTEM OF TIDAL	Youichi ATSUMI, Kenji ISHIZAWA,	
LEVELS WITH THE TIME SERIES DIGITAL DATA	Atsushi KUNITA, Shuichi	183-188
TELVILO VVITTI THE TIME SERIES DIGITAL DATA	NISHIMURA, Hiroyuki KITAHARA	
	NISHIMUKA, HIROYUKI KITAHAKA	

EXPERIMENTAL STUDY ON MOTIONS AND FORCES OF FLEXIBLE BEAM FLOATING STRUCTURES IN WAVES	Satoru SHIRAISHI, Go ISHIMI, Haruo YONEYAMA, Masuo KONDO	189-194
FIELD MEASUREMENTS OF MOTIONS OF SMALL SHIP IN SHIP WAVES	Katsuhiko SAITO, Shigeaki SHIOTANI, Nobuyuki FUJITOMI	195-200
DEVELOPMENT OF HIGHER ORDER BEM PROGRAM FOR WAVE RESPONSE ANALYSIS OF VERY LARGE FLOARING STRUCTURES	Tomoaki UTSUNOMIYA, Eiichi WATANABE, Akira KUBOTA	201-206
WAVE RESPONSE ANALYSIS OF A FULL SCALE FLOATING BRIDGE CONSIDERING FENDER NONLINEARITY AND ELASTIC DEFORMATION OF STRUCTURAL SYSTEM	Eiichi WATANABE, Tomoaki UTSUNOMIYA, Taku MATSUMURA, Hiroshi TANAKA, Tadaaki MARUYAMA	207-212
HYDRAULIC EXPERIMENTS ON DYNAMIC RESPONSE OF THE MOORED FLOATING STRUCTURE	Hiroaki TAKAMURA, Koichi MASUDA, Tsuyoshi MIYAZAKI, Tsuyoshi HASHIMOTO	213-218
STUDY ON THE ELASTIC RESPONSE ANALYSIS FOR FLOATING BRIDGES AGAINST WAVES	Shigeru UEDA, Hideyuki SETO, Naoki KUMAMOTO, Koichi INOUE, Shunzo OKA	219-224
SUMMARY OF VALUATION METHODS FOR ENVIRONMENT SUBJECT TO DEVELOPMENT PRESSURE	Kozo BANDO, Hideo SUZUKI	225-230
REPORT ON ENVIRONMENTAL RESTORATION PROGRAMS IN THE U,S,A	Hidehiro KATSUI, Isao TATSUMI, Tsutomu INADA	231-236
DISTRIBUTION OF CHLOROPHYLL CONCENTRATION IN MIKAWA BAY AND ITS PREDICTION FROM LANDSAT TM DATA	Shin-ichi AOKI, Nobuyuki AZUMA, Terumasa OBAYASHI, Toshiyuki TODA, Kazuyoshi NAKATSUKA	237-241
IN-SITU EXPERIMENT ON ENVIRONMENTAL IMPACT BY A VERY LARGE FLOATING STRUCTURE	Soichiro ISOZAKI, Akio HIKAI, Jun TAKATA	243-248
ENVIRONMENTAL CREATION IN ENCLOSED SHALLOW COASTAL ZONE	Shinichi WANO, Yasushi ICHIMURA	249-254
A DESIGN OF SHORE PROTECTION PROJECT IN CASER THAT MITIGATION IS INTRODUCED	Hiroshi SATO, Hisashi UENO	255-260
NUMERICAL SIMULATION OF WATER QUALITY IN TOKYO BAY IN SUMMER USING BIOLOGICAL MODEL STUDIES ON THE BEHAVIORAL CHARACTERISTICS AND THE MORTALITY	MasahiroTANAKA, Satoshi INAGAKI	261-266
OF THE JAPANESE SURF CLAM, PSEDOCARDIUM SACHALINENSIS, IN RELATION TO WAVE ACTION	Izumi SAKURAI, Masabumi SETO	267-272
DESIGN OF DETACHED SUBMERGED BREAKWATER TO IMPROVE HABITAT ENVIRONMENT OF BIVALVES	Hiroshi HASEGAWA	273-278
STRUCTURAL AND ENVIRONMENTAL FEATURES OF BREAKWATERS UTILIZED FOR SPAWNING OF A SQUID, LORIGO BLEEKERI	Kenzi YANO, Jiro SAITOU, Yasusi YAMAMOTO, Sigesi KITAHARA, Takasi OOMURA, Hideto NARUMI	279-284
STUDY ON ENVIRONMENTAL FACTORS THAT INFLUENCED ALGAE GROWTH	Shinji KUWABARA, Kejji MATSUYAMA, Shigeshi KITAHARA, NatsuhukoOHTSUKA,	285-290
POINTS TO BE NOTED IN CONSTRUCTION OF SHELL-GATHERING GROUNDS AS AMENITY SPACES	Takao AKUTSU, Toshiro YAMADA, Kenji YANO Shigeshi KITAHARA, Toshinori	291-296
STUDY OF A CAISSON INCLUDED A STORAGE TANK -A CASE OF HIGH DENSITY BREEDING OF SEA URCHINS-	TAKEDA, Kimihito ITO, Katsunori SEINO, Shinji KUWABARA, Kenji YANO	297-302
HABITABLE SEAWEED BED CONDISIONS FOR PANDALUS KESSLERI	Masabumi SETO, Keigo EBATA, Izumi SAKURAI, Gaku MATSUOKA, Toshihiko YAMASHITA	303-308
THE STUDY OF HYDRODYNAMIC CHARACTERISTIC OF BIVALVES	Masabumi SETO, Keigo EBATA, Shau XIANYU, Izumi SAKURAI, Katsuaki NASHIMOTO	309-314
THE OPEN SEA TEST OF A NEW MARINE CULTURING SYSTEM FOR THE MAKING GOOD USE OF SEAFLOOR SPACE.	Hiroki HURUYAMA, Yukihisa WASHIO, Hiroyuki OSAWA, Mitsuo TAGUSARI, Masahiko ARIKAWA	315-319
EXPERIMENTAL STUDY ON THE BEHAVIOR OF SCALLOPS IN FLOW FIELD	Toshihiko YAMASHITA, Hideki hoshi, Akira WADA, Izumi SAKURAI, Masafumi SETO	321-325
EXPERIMENTAL STUDY ON THE BURROWING BEHAVIOR OF YOUNG SURF CLAM UNDER OSCILLATORY FLOW	Toshihiko YOSHIDA, Akira WADA, Hideto NATUMI, Youichi ATSUMI, Izumi SAKURAI	327-330
NFLUENCE OF ADMIXTURES ON THE PENETRATION OF CHLORIDE ION INTO CONCRETE	Yasuhiro UMEMURA, Minoru ITO, Hiroshi HARADA	333-338
PHISICO-CHEMICAL INVESTIGATION ON A 32-YEAR OLD CONCRETE MARINE STRUTURE	Yoshiki WAKAYAMA, Youichi ATUMI, Atsushi KUNITA, Shin- ichiroh SEKIGUCHI, Toshitaka OHTA, Seiichi SHIMOBAYASHI	339-344
SUBMERGED PIPELINE LAYING BY TPP(TAISEI PIPE IN PIPE) METHOD	Keizo FUKUSHIMA, Yasuhiro HIGASHI, Kiyomasa FUKUI, Hideaki YONEYAMA, Kazuyoshi	345-350
V BLOCK METHOD, THE NEW FINAL JOINT IN IMMERSED TUNNELS	Ken-ichiro MINAMI, Kazushige UMEYAMA, Shuichi UMENO, Tetsuya KITADE	351-355

DEVELOPMENT OF A FLOATING BREAKWATER FOR MARINE CONSTRUCTION BY USING A USED VLCC	Eisuke SATO, Kunihiro IKEGAMI, Taketo TOMOI, Hideo KUDO	357-362
ESTABLISHMENT OF A HUGE CAISSON-TYPE DISCHARGED-OPENING ON THE SEA -CONSTRUCTION OF THE DISCHARGED-OPENING, THE 4TH UNIT OF KAWAGOE THERMAL POWER STATION-	Fumio ACHIWA, Katsumasa MORI, Tadashi TAKAHASHI	363-368
COMPARISON OF DEPOSITION CONFIGURATIONS DUMPED BY TREMIE PIPES AND BARGES	Eiji YAUCHI, Koichi YOKOBORI, Yoshiharu MATSUMI Kenichi OKUMURA, Tetsu	369-373
DUMPING DREDGED MATERIAL WITH DUBLE-TREMIE	TEZUKA, Yukio TAKAGI, Michio GOMYOH, Isao IIDA, Eiji YAUCHI	375-379
ON THE DESIGN AND CONSTRUCTION OF THE CAISSON FOR THE WAVE POWER GENERATING SYSTEM	Hiroshi UTSUMI, Masahiko OTAKA, Hidehiro KONNO	381-386
THERMAL POWER STATION	Susumu KAMEDA, Akira SHIONO, Tatsuhiro SUGIMOTO	387-392
A REPORT OF HIGH FILLING DISPOSAL ON LAND WITH DREDGED SOIL GENERATED BY SHORE PROTECTION WORKS	Hitoshi SUEZAWA, Hidenobu OKADA, Takashige TATEKAWA	393-398
ON APPLICATION OF PILE WITH EXPANDING END TO OFFSHORE STRUCTURE	Yoshi-hiko MAENO, Tomiya TAKATANI, Shigeo TAKAHASHI, Ken-ichiro SHIMOSAKO	399-404
STRESS PROPERTIES AND DESIGN METHOD FOR CAISSON LIFTING BARS	Seiji HIRANO, Tadayuki WADA, Terumi TANAKA, Natsuhiko	405-410
SELF-EDJING PILING PLATFORM CANTILEVERED FROM DAMAGED QUAY WALLS FOR WATERFRONT PILING	Akira FUJIOKA, Shinobu TAKAHASHI, Shigetaka DOI Hirohiko IWAHARA, Kejji TAKEDA,	411-416
RESULTS OF THE EXECUTION OF THIN-LAYER SPREADING BY THE OF A SIMPLIFIED FLOATING CONVEYOR	Tetsuo TANAKA, Sumio KIEUCHI, Yoshinobu OZAKI	417-422
THE SOIL IMPROVEMENT WORKS BY MPD METHOD IN THE NEW DISPOSAL -AS A COUNTERMEASURE TO INCREASE VOLUME OF WASTE DISPOSAL-	Kazuya MATSUDA, Touji OHNO, Masahiko ASAGA, Hidenori KOTERA, Shinichi IKEHATA	423-428
SITE INVESTIGATION ON THE BEHAVIOR OF A CAISSON INSTALLED UNDER WAVES AND THE TENSION OF WIRES	Masato HORISAWA, NoriyukiSADTO, Shigeru SAKAMA, Masamitsu YAGUCHI, Masnori	429-434
APPLICATION OF A COMPOSITE PIER STRUCTURE BY STEEL PILES AND PRECAST CONCRETE BLOCKS TO THE RESTORATION OF A DAMAGED QUAY WALL IN THE PORT OF KOBE	Yasuo MATSUNAGA, Hiroshi KIMURA, Isao HIRANO, Ryuji KAKUTANI, Kenji TAKAKI, Yukio	435-440
ESTIMATION OF SPATIAL VARIATION OF SOIL PROFILES IN A SUBMARINE CLAYEY DEPOSIT	Yoshihisa MIYATA, Keiji KOGURE, Yusuke HONJO	441-446
EFFECT OF SAMPLE DISTURBANCE ON STRENGTH PROPERTIES OF CLAY MEASURED BY PRECISION TRIAXIAL COMPRESSION APPARATUS	Takaharu SHOGAKI, Yoshikazu MARUYAMA, Syuji SHIRAKAWA, Hayato MORO, Keiji KOGURE	447-451
LABORATORY EXPERIMENTS OF THE STRESS-RESPONSE IN THE WAVE- INDUCED LIQUEFACTION	T. KITANO, S.NAKANO, S. OMURA, T. TAKAHASHI, H.	453-458
EFFECTS OF THE THICKNESS OF SANDY BEDS ON PORE WATER PRESSURE AND LIQUEFACTION BY PRESSURE FLUCTUATION	Toshihiko YAMASHITA, Takaaki MINAMIMURA, Takao AKUTU, Kenji YANO	459-464
BEARING CAPACITY OF PILE FOUNDATION AGAINST TIDE LEVEL CHANGE	Tomiya TAKATANI, Yoshi-hiko MAENO	465-470
APPLICABILITY OF 45-MM SAMPLER FOR KASAOKA CLAY DEPOSIT AND THE QUALITY OF ITS SAMPLE	Takaharu SHOUGAKI, Yoshikazu MARUYAMA, Shuji SHIRAKAWA, Hayato MORO, Takashi SUDO	471-476
DYNAMIC RESPONSE OF SUBMERGED FLOATING TUNNELS UNDER EARTHQUAKE	Shunji KANIE, Noriyoshi NIRASAWA, Takashi MIKAMI,	477-482
HYDRODYNAMIC FORCES ACTING ON OFFSHORE STRUCTURES SURROUNDED BY ICE SHEET OF FINITE SIZE DURING EARTHQUAKES	Tetsushi KIYOKAWA	483-488
STUDY ON A DISASTER COMMUNICATION SYSTEM IN THE FISHING PORT AND VILLAGE	Tomoyoshi HASHIZUME, Yuji NISHI, Sadayuki OKA, Akira	489-494
STUDY ON SAFETY COMMUNICATION SYSTEM (TSUNAMI INFORMATION QUICKLY AND EXACTLY TRANSMITTABLE TO THE PEOPLE AT A BEACH)	Tomoyoshi HASHIZUME, Masatsugu FUKUYA, Shouichi SHIKADA, Yasuhito MANO	495-500
FUNDAMENTAL STUDY OF COMFORT LEVEL OF ACCUSTIC ENVIRONMENT IN NORTHERN KYUSHU COASTAL ZONE	Masatoshi KATAYAMA	500-506
EXPERIMENTAL STUDY ON SOUND PRESSURE GENERATED BY WAVE- SUBMERGED STRUCTURE INTERACTION	Norimi MIZUTANI, June-Q KIM, Atsushi SUZUKI, Takashi TOMITA, Koichiro IWATA	507-512
ON MOTION REDUCTION CHARACTERISTICS OF FLOATING BODY UTILIZING INVESTIGATION INTO CONSTRUCTION PROCESS AT THE WORKS	Shinjiro OMOTO, Yoshinori NITTA Jyunji HIRAOKA, Tuyoshi	513-518
BULKHEAD BASED ON NUMERICAL FLOW ANALYSIS VORTEX-EXCITED VIBRATION OF A CIRCULAR CYLINDER IN PLANAR OSCILLATORY FLOW	SUMIKAWA, Akihumi NAKASHITA Kenjirou HAYASHI, Katsuya TANAKA, Toshiyuki SHIGEMURA,	519-524 525-530
	Shigeru YOSHIDA, Norio HAYAKAWA, Tokuzou	531-536
EFFECT OF REYNOLDS NUMBER ON MODEL ELEMENT OF WAVE TRANSFORMATION BY PEMEABLEBREAKWATERS	Yasuo IDA, Satoru KOBAYASHI, Teruo HAGIHARA	537-542

QUASI-2DV CIRCULATION MODEL OF WAVE-INDUCED CURRENTS IN THE	Masamitsu KUROIWA, Hideaki	543-548
SURF ZONE	NODA, Yasuyuki HOUCHI	010 010
DESIGN WAVE FORCE ON PERFORATED CAISSON BREAKWATERS WITH WAVE DISSIPATING BLOCKS	Yasuji YAMAMOTO, Katsutosi KIMURA, Kenji YANO, Sadamitsu AKEDA, Yoshinori TAKEDA, Kouji SEKIGUCHI	549-554
THE EXPERIMENTAL STUDY ON CHARACTERISTICS OF WAVE OVERTOPPING OF GENTLE SLOPE SEAWALLS WHICH HAS WAVE	Kazuo KATAHIRA, Akira SASADA, Akira NAKAI, Takanori MORIKAWA	555-560
LABORATORY TESTS ON THE VIBRATION OF ARMOR BLOCKS BY WAVES	Masahiro ITO	561-566
IMPLULSIVE PRESSURE BY BREAKING WAVE ON WAVE DISSIPATING CAISSON WITH HALF-CYLINDRICAL FRONT WALL	Fumio TADA, Akira KIMURA, Taketo HIRATA	567-572
WAVE OVERTOPPING CHARACTERISTICS OF HIGH MOUND COMPOSITE SEAWALLS	Shigeo TAKAHASHI, Kenichiro SHIMOSAKO, Yuichi SAITOH, Hironobu MIURA, Yoon-Koo KANG	573-578
INFLUENCE OF UNCERTAIN FACTOR IN BREAKWATER DESIGN TO ENCOUNTER PROBABILITY OF FAILURE	Hiroyasu KAWAI, Tetsuya HIRAISHI, Tsunehiro SEKIMOTO	579-584
ESTIMATION OF THE WAVE OVERTOPPING RATE FOR A DOUBLE ALIGNMENT BREAKWATER	Yasuji YAMAMOTO, Yuzo MIZUNO, Takanobu SUZUKI, Takahiko SASAZIMA, Hideaki MATSUMOTO, Koji KUWAHARA	585-590
A STUDY OF GATE-TYPE WAVE ATTENUATORS	Masaya KATO, Masaru MURATA, Keiichi TSUKADA, Kenji ODA, Hideaki WATARAI	591-596
A FLOATING-TYPE ATTENUATOR OF REFLECTION WAVES BY USING WAVE SLAMMING PHENOMENA	Takayuki NAKAMURA, Takamitsu YAHARA, Toru MONO	597-602
EXPERIMENTAL STUDY ON WAVE CURRENT DUE TO WALL-TYPE VERTICAL BREAKWATER IN WAVE CONTROL	Minoru OCHIAI, Shigekatsu ENDO	603-608
PREVENTION METHOD OF LONG PERIOD WAVES BY CONSTRUCTION OF BREAKWATERS	Atsushi KUNITA, Youichi ATSUMI, Kenji ISHIZAWA, Shin-ichiro SEKIGUCHI, Katsutoshi KIMURA, Tetsuya HIRAISHI, Tsutomu KAWAGUCHI	609-614
WAVE OVERTOPPING AND WAVE REFLECTION OF BLOCK MOUND SEAWALLS WITH SLIT WALLS ON CONCRETE CAISSON	Shoji TSUTSUI, Masao KITANO, Noriaki YAGI, Tetsu MEMITA, Koji TONOMO	615-619
TOPOGRAPHIC CHANGES OF FUJIMORI AND TOCHIYAMA RIVER MOUTHS CAUSED BY BEACH EROSION AND NEW RIVER MOUTH IMPROVEMENT SOME NOTES ON DESIGN METHOD OF SLUCE FLOOD WAY ON COAST	akaaki UDA, Susumu KOSUGE, Masaru MATSUDA	621-626
DOMINATING LONGSHORE SAND TRANSPORT	Takaaki UDA Takaaki UDA, Yoshimichi	627-632
FIELD OBSERVATION OF FLORIDA COASTS IN USA	YAMAMOTO	633-637
FIELD INVESTIGATION OF FORMATIVE PROCESS OF ASYMMETRIC RIVER MOUTH BAR - THE EXAMPLE OF THE ABE RIVER MOUTH - COASTAL LANDFORM OF SHONAN AND SEISHO COASTS READ FROM	Takaaki UDA, Susumu KOSUGE	639-644
AERIAL PHOTOGRAPHS	Takaaki UDA, Ken-ichi KATOH, Hiroshi YAMAGATA Takaaki UDA, Masumi SERIZAWA,	645-650
CAUSE OF INCREASE IN ARTIFICIAL COASTLINE ASSOCIATED WITH EXTENSION OF HARBOR BREAKWATER AND ITS MEASURES	Toshiro SAN-NAMI, Kou FURUIKE, Yasutsugu KANDA	651-656
FIELD INVESTIGATION OF THE PLAN FORM OF POCKET BEACHES	Hideaki OKUZONO, Hachirou TOKUMARU	657-662
INVESTIGATION ON THE ACTUAL CONDITION OF REFORMATION TO COAST-PRESERVATION STRUCTURES	Hiroshi YOKOTA, Satoru MATSUBUCHI	663-668
A STUDY OF CONNTERPLAN OF THE STAVE OFF A BREAK-DOWN OF TAIJIMA ISLAND, WAKINOSAWA, AOMORI	Fumihiro HARA, Syuichi MORIYAMA	669-673
THE ANALYSIS OF BEACH SURVEY DATA AND PREDICTION ON THE MOVEMENT OF SHORE LINE	Kouhei TAKAHASHI, You SAKAMOTO, Shoichi ABE	675-680
SEAWATER EROSION AROUND THE SANDBARRIERS AT RIVER MOUTHS	Yoshichika ITO, Akira MANO Kozo BANDO、Shingo AKIYAMA、	681-385
THE CONSTRUCTION OF THE POCKET BEACH SHAPED SEASHORE	Lim BOON-KENG、Hidenobu MATSUOKA、Naruo FUKUDA	687-692
DEVELOPMENTS OF TECHNOLOGY USING RUBLE MOUND BREAKWATERS FOR EELGRASS(ZOSTERA MARINA) BED	Yuhei MATSUBARA, Hideaki NODA, Masanori YORIFUJI, Hideaki NAKATANI	693-698
BEHAVIORAL STUDY OF JUVENILE SEA URCHIN STRONGYLOCENTROUTUS INTERMEDIUS ON SEVERAL SUBSTRATE IN OSCILLATORY FLOW	Yuji MACHIGUCHI, Takuya YAMASHITA, Takao AKUTSU, Toshihiko YAMASHITA, Takaaki MINAMIMURA, Kenji YANO	699-704
SETTLEMENT AND RECRUITMENT OF MARINE ORGANISMS ON A SERIES OF ARTIFICIAL REEFS	Toshio HOSHINO, Kazuhiro SARUTA, Yasurou OHTANI, Shin Youichi ATSUMI, Takeshi	705-709
CHARACTERISTICS OF THE DISTRIBUTION OF SURF CLAM AND PHYSICAL ENVIRONMENT AROUND PORT IN OPEN SANDY BEACH	ISHIZAWA, Atsushi KUNITA, Kenji YANO, Sadamitsu AKETA, Hideto NARUMI, Yoshiharu NAKAMURA, Toshihiko YAMASHITA	711-716

FIELD MEASUREMENT OF THE AERIAL DISTRIBUTION OF SEA-SALT PARTICLES IN THE NORTHERN KYUSHU NATURAL COASTAL ZONE	Kasatoshi KATAYAMA	717-722
FIELD MEASUREMENT AND NUMERICAL SIMULATION OF DISTRIBUTION OF SEA SALT PARTICLES IN THE OPEN COASTAL REGION	Youichi ATSUMI, Yoshiki WAKAYAMA, Atsushi KUNITA, Shin-ichiro SEKIGUCHI, Katsuharu SATO, Joji Miyagawa	723-728
STUDY ON ECOSYSTEM CONSERVATION AND ECO-SOCIAL SYSTEM STRUCTURE IN THE FISHING VILLAGE CASE STUDY FOR RAUSU TOWN IN	Izumi KODAMA, Kouichi KOYAMA, Akira NAGANO, Sanji KIDA	729-734
MARKED CLAM RELEASE-RECAPTURED TEST FOR ENVIRONMENTAL EVALUATION	Yoshinori KOSHIKAWA, Kiyoshi HAGIWARA, Nobuo SAKURAI	735-740
A FIELD SURVEY OF WAVES AND CURRENTS IN SEABATHING AREA FACING OPEN SEA	Shigeo KAHAHASHI, Kojiro SUZUKI, Tomomitsu OKAMURA, Hironobu MIURA, Syunji SAKAMOTO, Masahiko	741-746
DEVELOPMENT OF FISHING GROUND WITH UPWELLING BY USE OF COAL ASH	Tatsuo SUZUKI, Masayuki TAKAHASHI	747-752
SOME PROPOSALS ON THE CONSTRUCTION OF MAN-MADE TIDE POOL AIMING AT COEXISTENCE WITH MARINE ORGANISMS	Masao INOUE, Hiroaki SHIMADA, Yuka KARATANI, Tadashi TETSUKAWA	753-758
A DEVELOPMENT OF SEAWEED TYPE TEXTILE FOR SAND DRIFT CONTROL	Norihiko Sakata, Makoto OOTAGURO, Minoru HATA, Hiderou HAYASHI, Kazuki ODA,	759-764
A STUDY ON THE SHEARING STRENGTH AND ADHESIVE STRENGTH OF SEA ICE	Hisao MATSUSHITA, Toru TAKAWAKI, Takahiro TAKEUCHI, Masafumi SAKAI, Takashi TERASHIMA, Hideki HONDA, Takaharu MASAKI, Akifumi NISHIHATA, Masakuni HANADA, Hiroshi SAEKI	765–770
ON THE INTERACTION OF STRUCTURE WITH ICE SHEET IN MEDIUM SCALE FIELD INDENTATION TESTS (PART 2)	Satoshi AKAGAWA, Muneo KAWAMURA, Takahiro TAKEICHI, Masafumi SAKAI, Masakazu AOSHIMA, Hidehiro KATSUI, Hisao MATSUSHITA, Naoki NAKAZAWA, Takashi TERASHIMA, Ken-ichi HIRAYAMA, Hiroshi SAEKI	771-776
ON THE EFFECT OF THE ROUGHNESS OF LEADING EDGE OF NATURAL ICE SHEET ON ICE LOAD	Takahiro TAKEUCHI, Muneo KAWAMURA, Hideki HONDA, Takaharu MASAKI, Kyoichi NARITA, Takayuki SAITO, Hideyuki NISHIMAKI, Hiroshi SAEKI	777-782
SEA ICE FAILURE NEAR PORT FACILITIES IN COLD REGIONS	Tetsuya HAYAKAWA, Takashi TERASHIMA, Akifumi NISHIHATA, Koichi YAMAKADO, Soshi HAMAOKA, Hiroshi SAEKI	783-787
THE EXPERIMENTAL STUDY OF THE BEARING CAPACITY OF THE ICE SHEETS	Hideki HONDA, Kaori OSHIMA, Takaharu KAWAI, Satoshi MASAKI, Kyouichi NARITA, Hiroshi SAEKI	789-793
MOVEMENT OF ICE FLOE AT THE EDGE OF ICE SHEET IN SAROMA LAGOON	Takaharu KAWAI, Satoshi MASAKI, Fumihiro HARA, Kaori OHSHIMA, Atsumi FURUYA, Hiroshi SAEKI	795-800
DEFORMATION OF ICE SHEETS AT THE TIME OF COLLISION WITH PILE STRUCTURES	M. HANADA, T. YAMAGUCHI, K. KAWAI, T. HAYAKAWA, H. SAEKI	801-805
ESTIMATION OF THE IMPACT ICE LOAD ACTING ON THE FACILITY PREVENTING FROM OVERTOPPING OF ICE FLOES	Kunihiro KAWAI, Masaki SATO, Tetsuya HAYAKAWA, Masakuni HANADA, Hirosi SAEKI	807-812
ABRASION OF STEEL SHEET PILE DUE TO A MOVEMENT OF ICE FLOES AND ITS ESTIMATION	T. TERASHIMA, A. IMAIZUMI, K. SATO, K. NAKATA, M. HANADA, H. SAEKI	813-818
VERTICAL ICE LOAD ACTING ON PILE STRUCTURES WITH VARIOUS CROSS-SECTIONS	Takashi TERASHIMA, Akifumi NISHIHATA, Kyo-ichi NARITA, Kunihiro KAWAI, Hideki HONDA, Hiroshi SAEKI	819-824
CHARACTERISTICS OF COMPRESSIVE STRENGTH OF SEA ICE AT NOTORO LAGOON STRENGTH DISPERSION AND INFLUENCE OF GRAIN STRUCTURE	Hisao MATSUSHITA, Toru Takawaki, Ken-ichi HIRAYAMA, Takaharu MASAKI, Hideki HONDA, Hiroshi SAEKI	825-830
ABRASION OF STONES DUE TO A MOVEMENT OF SEA ICE SHEET	M/HANADA, K. OSHIMA, M. UJIHIRA, T. YAMASHITA, H. SAEKI, Y. FUKUHARA	831-835
STABILITY OF ARMOR STONES ON DOUBLY PLACED SUBMERGED BREAKWATERS DUE TO ICE FLOES ACTION IN WAVE FIELD.	T.HAYAKAWA, T. KITAMURA, M. SATO, C. KINOSITA, Y, WATANABE, H. SAEKI	837-842

STUDY ON CHARACTERISTICS OF THE STRENGTH VARIATION OF SEC ICE AND ICE FORCE LOADING ON THE STRUCTURES	Takaharu MASAKI, Hideki HONDA, Takahiro TAKEUCHI, Muneo KAWAMURA, Hisao MATSUSHITA, Masafumi SAKAI, Hiroshi SAEKI	843-846
CHARACTERISTICS OF FREEZING IN PORTS AND FISHING PORTS IN HOKKAIDO	Tetsuya HAYAKAWA, Yoichi SAKAMOTO, Yuzo MIZUNO, Shigeaki ISHIKAWA, Hitoshi	847-851
STUDY ON THE ICE FORCE ACTING ON ICE BOOM AT THE MOUTH OF LAKE SAROMA	Koji SEKIGUCHI, Tetsujiro TOYAMA, Takashi ARATA,	853-858
MEASUREMENTS OF STRAIN RANGE OF ICE SHEET UNDER ICE- STRUCTURE INTERACTIONS IN MEDIUM SCALE FIELD INDENTATION TESTS	Masafumi SAKAI, Masakazu AOSHIMA, Hidehoro KATSUI, Takahiro TAKEUCHI, Muneo KAWAMURA, Hisao MATSUSHITA, Tohru TAKAWAKI, Takashi TERASHIMA, Hirosi SAEKI	859-864
STUDY ON THREE-DIMENSIONAL EROSION OF A SANDY BED DUE TO UNDERTOW AND ON VELOCITY OF SUSPENED SSEDIMENT	Yasunori WATANABE, Hiroshi SAEKI, Norihiro MORI, Kei	865-870
ON THE MUTUAL RELATION BETWEEN PROFILES AND WAVES OF SANDY BEACHS.	Shozo TOMAKI	871-876
STRUCTURAL AND HYDRAULIC CHARACTERISTICS OF A SAND TUBE WITH TWINS	Ryuji KOH, Hiroshi KIMURA, Yorihiko IMASE, Hisashi HIRAYAMA, Munetoshi	877-882
FIELD OBSERVATION FOR SAND COMPACTION AND TOPOGRAPHY CHANGE ON AN ARTIFICIAL BEACH FACE	Takeshi MATSUMURA, Shuichi OKUBO, Simon KATO, Susumu KUBOTA, Mitsuo TAKEZAWA	883-888
STUDY ON PREDICTION METHOD OF SAND-MOVEMENT DIRECTION IN SEA BY GEOCHEMICAL ELEMENTS	Yukihiro KUMAGAI, Kazumasa MIZUMURA	889-893
FLOW PATTEM AROUND BOTTOM STRUCTURE IN WAVES	Masanobu ONO, Ichiro DEGUCHI, Shin-ichi KUBOTA	895-900
A STUDY OF WIND LOADS AGAINST SMALL BOATS MOORING IN MARINA	Keiichiro KAWAGUCHI, Nobuo KATO, Masaya KATO, Michio NAKAKURA, Midori KAMIYAMA,	901-906
CHARACTERISTICS OF UNSTEADY FLUID LIFT FORCE OF SFT ACTED BY FLIP-FLOP TYPE ACTUATOR SUBJECTED TO CROSS FLOW	Toru IIJIMA, Hideo KONDOU, Natsuhiko OTUKA, Osamu OSIMA	907-912
REDUCING UNSTEADY FLUID FORCE OF S.F.T BY USING AIR SPOUTING TYPE ACTUATOR	Toru IIJIMA, Hideo KONDO, Natsuhiko OTUKA, Yasuhisa SATO	913-918
STUDY ON THE STABILITY OF THE SUBMERGED FLOATING TUNNELS BY DISCRETE VORTEX METHOD	Syunichi KANBE, Minoru NODA, Shigeki TATSUMI, Shigeyuki TODA	919-924
STUDIES OF COASTAL STRUCTURES REGARDING THE FUNCTION AS FISH REEFS -REGARDING FISH AND EPLPHYLLLLOUS AND INTERFOLLACEOUS BIOTA IN THE VICINITY OF STRUCTURES-	Kenji YANO, Hideto NARUMI, Toshiharu ONODERA, Seiji KOYAMA, Akihiro HONMA, Yoshio MITSUHASHI, Kiyoto	925-929
THE DESIGN OF BREAKWATER BY "PSR" AT YOBITO FISHERY HARBOR	Kazuyosi AOYAMA, Akira KAMADA, Junzi TAMAOKI,	931-936
AVAILABILITY OF SATELLITE REMOTE SENSING TECHNIQUE FOR CONFIRMING SIMILARITY OF A NUMERICAL SIMULATION SYSTEM	Ryuji HYODO, Keinosuke GOTOH, Byungdug JUN	937-942