

Cambridge University Press

978-1-107-41029-9 - Materials Issues in Microcrystalline Semiconductors: Materials Research Society Symposium Proceedings: Volume 164

Editors: Philippe M. Fauchet, Kazunobu Tanaka and Chuang Chuang Tsai

Index

[More information](#)

395

Author Index

- Abeles, B., 217
 Aikawa, I., 347
 Ajioka, T., 347
 Akasaka, Y., 371
 Albright, D.E., 315
 Albu-Yaron, A., 81
 Aljishi, Samer, 51
 Anderson, G.B., 183
 Arai, Toshihiro, 99
 Ashok, S., 239

 Bachrach, R.Z., 183
 Baert, K., 359
 Bai, P., 321
 Bandyopadhyay, A.K., 69
 Banerjee, Ratnabali, 69
 Barua, A.K., 69
 Batabyal, A.K., 69
 Bauman, J., 27
 Bhushan, B., 309
 Birnboim, Meyer H., 277, 283
 Bobonneau, F., 303
 Bogy, D.B., 309
 Bouldin, D.H., 33
 Boyce, J.B., 183, 265
 Breitschwerdt, A., 189
 Buehler, E.C., 21, 265
 Bustarret, Etienne, 211, 235

 Campbell, I.H., 15, 259, 315
 Chen, Lingrong, 223
 Chen, Shuguang, 75
 Chenglu, Lin, 147
 Chianelli, R.R., 153
 Cho, N.-H., 309
 Chu, C-J, 303
 Chuang, Tien-Min, 383
 Chung, Kwan Soo, 171
 Cumberbatch, Toby J., 129
 Curtins, H., 27

 Deschepper, P., 359
 Dias, A.G., 57
 Dong, Qin, 147
 Driscoll, T., 105
 Du, J., 321

 Engelhard, T., 81

 Fauchet, P.M., 15, 259, 315
 Figueiredo, J., 57
 Finger, F., 27
 Fortmann, C.M., 315
 Fujioka, H., 341
 Fukui, K., 389

 Furukawa, Shoji, 247

 Geerts, M.J., 177
 Gibson, J.M., 161
 Gier, T.E., 123
 Goto, T., 3
 Gutmann, Ronald J., 383

 Hachicha, M.A., 211, 235
 Hamakawa, Y., 291
 Hanna, Jun-ichi, 63, 195
 Harrison, W.T.A., 123
 Hatalis, Miltiadis K., 87
 Haus, J.W., 283
 Heiman, D., 141
 Herrero, C.P., 189
 Hill, I., 321
 Hiraki, Akio, 205
 Hirashita, N., 347
 Hirata, G., 291
 Hodes, G., 81
 Hopper, C.B., 309
 Horie, C., 271
 Huber, C.A., 117, 141
 Huber, T.E., 117
 Hui, Tan, 147
 Hwang, Jung Tae, 171

 Ingels, Martin, 189, 229
 Inguva, R., 283
 Inokuma, Takao, 99
 Inoue, Y., 371
 Ippôshi, T., 371
 Ishikawa, Mitsuru, 99
 Ishimura, T., 389
 Ito, M., 341
 Ito, Toshimichi, 205
 Itoh, M., 347
 Iwami, Motohiro, 205
 Izzard, M.J., 377

 Jang, Jin, 171
 Jeng, Shwu J., 353
 Jin, Shu, 51
 Johnson, R.I., 183
 Jung, Chang Young, 171

 Kalyaniwalla, N., 283
 Kameda, M., 329
 Kamo, Akira, 63
 Kanicki, Jerzy, 353
 Kim, Sung Chul, 171
 Koh, Sung Ok, 171
 Komiya, Tohru, 63
 Kotecki, David E., 353

Cambridge University Press

978-1-107-41029-9 - Materials Issues in Microcrystalline Semiconductors: Materials Research Society Symposium Proceedings: Volume 164

Editors: Philippe M. Fauchet, Kazunobu Tanaka and Chuang Chuang Tsai

Index

[More information](#)

396

- Krishnan, K.M., 309
 Kujirai, Hiroshi, 63
 Kumagai, K., 389
 Kumar, Binod, 135
 Kuwano, Y., 329

 Lam, C.H., 33
 Lee, Seung Kyu, 171
 LeGrice, Y.M., 265
 Lewis, M., 105
 Ley, Lothar, 51
 Lin, Fuyu, 87
 Lin, Sam Shuhan, 75
 Lu, Enlian, 93, 153
 Lucovsky, G., 21, 265

 Ma, Wei Ping, 277, 283
 MacDougall, J.E., 123
 Mackenzie, J.D., 303
 Matsuda, A., 3
 Matsumoto, Y., 291
 Matsuyama, T., 329
 Mertens, R., 359
 Migliorato, P., 377
 Milne, W.I., 377
 Mingde, Tao, 147
 Miyasato, Tatsuro, 247
 Mo, Dang, 75
 Moran, K.L., 123

 Nakabeppu, F., 389
 Nakano, S., 329
 Nemanich, R.J., 21, 265
 Nijs, J., 359
 Nishikuni, M., 329
 Nishimura, T., 371
 Nishina, Y., 271

 Ohnishi, M., 329
 Okada, Y., 15
 Okamoto, H., 291
 Okamoto, S., 329

 Parks, Christopher C., 353
 Parsons, G.N., 21, 265
 Pattyn, H., 359
 Perez, J.A., 117
 Persans, Peter D., 93, 105, 153, 217
 Pettford-Long, A., 81
 Prabhakar, E.N., 141
 Prasad, Kshem, 27
 Putnis, Andrew, 129

 Rai, D.K., 135
 Rausch, Werner, 353
 Ready, S.E., 183
 Redwing, R., 105
 Rose, Kenneth, 33, 383
 Rubin, M.D., 309

 Ruppert, A.F., 153

 Salzberg, A.P., 117
 Sasaki, Y., 271
 Schroeder, John, 93
 Seshan, Krishna, 353
 Shah, A., 27
 Sharma, S.N., 69
 Shichang, Zou, 147
 Shimizu, Isamu, 63, 195
 Shirai, Hajime, 195
 Shroder, R.E., 265
 Soe, Sung Moo, 171
 Srikanth, K., 239
 Stucky, G.D., 123
 Stutzmann, Martin, 51, 189, 229
 Sugahara, K., 371

 Takasaki, K., 341
 Tanaka, Akinori, 99
 Tanaka, M., 329
 Tauc, J., 223
 Tien, Jean, 353
 Ting, S.-J., 303
 Tong, B.Y., 321
 Tsuda, S., 329
 Tu, An, 105

 van den Heuvel, J.C., 177
 van Oort, R.C., 177
 Vardeny, Z., 223
 Veirs, D.K., 309
 Veprek, Stan, 39

 Wagner, S., 15, 161
 Wang, Cheng, 21, 265
 Wang, S.-L., 217
 Watabe, Hirokuni, 205
 Westcott, Michael R., 87
 Winer, K., 183
 Wolff, S.H., 161
 Wong, S.K., 321
 Wraback, M., 223
 Wu, Y.-J., 217, 321

 Yamagata, K., 365
 Yang, G., 321
 Yasumatsu, Tatsuro, 205
 Yonehara, T., 365

 Zhao, Xue-Shu, 93
 Zollner, Stefan, 229

Cambridge University Press

978-1-107-41029-9 - Materials Issues in Microcrystalline Semiconductors: Materials Research Society Symposium Proceedings: Volume 164

Editors: Philippe M. Fauchet, Kazunobu Tanaka and Chuang Chuang Tsai

Index

[More information](#)

397

Subject Index

- a-Ge:H, 315
- a-Si:H, 315
- alloy, 57
- ambient effect, 69
- amorphous
 - hydrogenated carbon films, 75
 - Si, 265
 - SiC:H, 303
 - SiGe, 315
 - silicon-boron alloys, 321
 - substrates, 365
- annealing, 183, 321
- aqueous, 129
- atomic hydrogen, 195
- Auger electron spectroscopy (AES), 33
- B-doped microcrystalline silicon, 235
- binary Si:H, 247
- bulk, 51
- C=C double bonds, 303
- C-dangling bonds, 303
- carbon doping, 341
- CdS crystallites, 81, 135
- $\text{CdS}_{1-x}\text{Se}_x$, 105
- $\text{CdSe}_{1-x}\text{S}_x$, 99, 141
- chalcogen-containing, 81
- characterization, 87
- chemical
 - equilibrium, 39
 - vapor deposition, 15
- chemically vapour deposited, 57
- clusters, 99
- collection efficiency, 329
- colloidal
 - CdS, 93
 - dispersion, 153
- colloids, 129
- composites, 265
- conversion efficiency, 329
- crystalline Si, 63
- crystallization, 39, 161, 183, 321
- dc dark conductivity, 183
- deactivation, 239
- device fabrication processes, 347
- diamond, 265
- diamond-like carbon thin films, 309
- dopant segregation, 347
- doped hydrogenated microcrystalline silicon, 27
- edge emission, 99
- effective medium approximation, 33
- electrical conductivity, 75
- electrodeposited, 81
- electron
 - diffraction, 21
 - energy loss spectroscopy (EELS), 309
 - lifetime, 315
- electronic
 - conductivity, 39, 183
 - mobility, 183, 315
 - transport, 183
- ellipsoidal particles, 283
- ellipsometric measurement, 33
- ellipsometry, 75
- enhancement of the local field, 283
- epitaxial, 63
- (epi)-Si, 195
- ESR, 303
- excimer laser, 183
- excitonic absorption, 135
- fast pulse, 183
- film composition, 33
- fluorine, 63
 - doped silicon oxide, 57
 - doping, 341
 - enhanced silicon oxidation, 57
- fractal-like structures, 177
- glass matrix, 99
- grain
 - boundaries, 347
 - boundary model, 15
 - sizes, 171
- graphitization, 75
- growth dynamics, 51
- H₂, 303
- Hall effect, 235
- heat of segregation, 347
- heterogeneous material, 283
- high P_H , 21
- high T_S , 21
- highly conductive, 27
- HRTEM, 33

Cambridge University Press

978-1-107-41029-9 - Materials Issues in Microcrystalline Semiconductors: Materials Research Society Symposium Proceedings: Volume 164

Editors: Philippe M. Fauchet, Kazunobu Tanaka and Chuang Chuang Tsai

Index

[More information](#)

398

- hydrogen
 - amorphous silicon, 177
 - atoms, 161, 205, 239
 - dilution, 51
 - effusion, 189
 - evolution, 183
 - plasma, 189
 - sputtering, 247
 - rf plasma, 177
- hydrogenated
 - amorphous silicon, 183
 - defect structure, 51
 - microcrystalline
 - films, 177
 - silicon, 353
- II-VI semiconductors, 123
- III-V semiconductors, 123, 129
- impurity concentration, 183
- infrared
 - absorption, 75, 235
 - spectroscopy, 189
- ion implantation, 239
- laser-induced, 183
- low temperature photo-luminescence, 141
- LPCVD, 383
- magnetron sputtering, 69
- mesh-like, 117
- metal-organic polymer, 303
- microcrystalline, 69, 265, 315, 389
 - phase, 303
 - Si, 15, 21, 39, 189, 205, 217, 229, 315, 329
- microcrystalline CdS, 93
- microcrystals, 141, 171
- microstructures, 117
- model, 377
- molecular beam epitaxy, 161
- molybdenum disulfide
 - microcrystals, 153
- nanocrystalline
 - silicon, 39, 211
 - structure, 81
- nanometer-size, 283
- nanoparticle composites, 277
- nanoparticles, 105
 - coated, 283
- non-aqueous electrolytes, 81
- nonlinear optical, 277
 - response, 283
- optical
 - absorption, 39, 51, 105
 - spectra, 211
 - band-gap, 353
 - bistability, 283
 - gap, 247
 - properties, 229
- opto-electronic properties, 3
- optoelectronics, 291
- p-doped microcrystalline
 - silicon, 235
- particle-size distribution, 141
- passivation, 189, 205
- PECVD, 353
- permeation, 239
- phase transition, 93
- phonon
 - spectra, 93
 - states, 271
- phosphorus, 347
 - doped SIPOS films, 383
 - doped $\mu\text{c-Si:H}$ films, 27
- photo-conductivity, 315
- photo-oxidation processes, 57
- photocrystalline silicon, 329
- photoelectrochemical activity, 81
- photoinduced effects, 223
- photoluminescence, 93, 105, 247
- photovoltaic, 291
- pico-second photomodulation, 223
- plasma
 - enhanced, 15, 57
 - frequency, 189
- polycrystalline
 - cadmium selenide films, 87
 - silicon, 347
- poly-Si thin film transistors, 359
- poly-silicon, 377
- porous vycor glass, 117
- post-deposition processing, 183
- power
 - density, 309
 - modulated multi-layered
 - structure, 247
- pressure, 117
 - dependence, 93

Cambridge University Press

978-1-107-41029-9 - Materials Issues in Microcrystalline Semiconductors: Materials Research Society Symposium Proceedings: Volume 164

Editors: Philippe M. Fauchet, Kazunobu Tanaka and Chuang Chuang Tsai

Index

[More information](#)

399

- Raman
 - absorption, 51
 - scattering, 21, 39, 105, 153, 235
 - resonant, 93
 - spectroscopy, 75, 189, 259, 265, 309
 - spectrum, 271
- remote plasma CVD, 171
- RF
 - glow discharge decom-position, 75
 - plasma CVD, 359
 - reactive magnetron sputtering, 21
- RTA, 353
- Rutherford back scattering (RBS), 33
- selective growth, 359, 365
- semiconductor
 - impregnated, 117
 - microcrystals, 259
 - quantum dots, 141
- Si crystals, 265
- Si microcrystals, 247
- SiC small particles, 271
- SiF₄, 15
- silane, 63
- silicon
 - clusters, 57
 - rich oxides, 33
- SIPOS films, 383
- size dependence, 271
- size of 50Å, 117
- solid phase crystalliza-tion, 271
- solid-state
 - agglomeration, 365
 - chemistry, 123
- Source & Drain, 359
- stacked solar cell, 389
- subgap absorption, 189
- superlattice, 247
- suppression, 239
- surface, 51
 - plasmon resonance, 283
 - reactions, 3
- switching intensity, 283
- TEM, 353
 - bright-field imaging, 21
 - dark-field imaging, 21
- thermal
 - annealing, 75, 147
 - stability, 341
- thin film transistor (TFT), 377
- 3-D quantum size effects, 81
- time-resolved spectra, 99
- total yield photoelectron spectroscopies, 51
- transport properties, 235
- trapping effects, 383
- triode PECVD, 235
- two phases, 223
- μc, 195
- μc-Si:H, 3, 27, 63, 183, 341
- μc-Si:H:F, 359
- ultrafast
 - carrier recombination, 223
 - carrier trapping, 223
- ultrathin layers, 217
- undoped SIPOS films, 383
- x-ray diffraction, 39, 105
- zeolites, 123