Program

Sept. 26 (Mon.)

Plenary Talk

13:00

0. Interrelation between basic research of crystal lattice defects and silicon material technology

K. Sumino

Professor Emeritus Tohoku University

13:45

A. Defect states of nitrogen and related complexes, Characterization, Nitrogen content determination

13:45

1. Beginnings of nitrogen-doped FZ crystal research

T. Abe

Isobe R&D Center, Shin-Etsu Handoutai Co., Ltd.

14:30

2. Nitrogen in silicon

N. Inoue

RIAST, Osaka Prefecture University

15:00

3. Stability and vibration mode of nitrogen complex in silicon

H. Sawada and K. Kawakami

Advanced Technology Research Laboratories, Nippon Steel Corporation

15:30

4. The law dominating thermal behavior of nitrogen-related defects in silicon ---- Quasi-thermal equilibrium in nitrogen-involving defect reactions in silicon

K. Tanahashi and H. Yamada-Kaneta

Nano-electronic Materials Lab., Fujitsu Laboratories Ltd.,

16:00

COFFEE BREAK

B. Growth process defects induced by N- and C-doping, and (C,N)-codoping, Controlling technologies

16:15

5. Effect of nitrogen and carbon on the formation of crystal defects in CZ-Si

K. Nakai, H. Yokota, H. Kato, A. Tachikawa, A. Ikari, and M. Tanaka

Advanced Technology Research Laboratories, Nippon Steel Corporation

16:45

6. Behavior of Defects in nitrogen-doped CZ-Si crystals

T. Ono, S. Umeno, T. Tanaka, E. Asayama, and M. Hourai

Sitix Division, Sumitomo Metal Industries, LTD

17:15

7. The influence of nitrogen on the point defect reaction in silicon crystals

K. Nakamura, T. Saishoji, and J. Tomioka

Technical Division, Komatsu Electronic Metal Co., Ltd.,

17:45

8. Interrelationship between the morphology of defects and nitrogen distribution in nitrogen-doped silicon crystals

H. Fujimori[1)], K. Kashima[1)], H. Shirai[1)], and T. Okabe[2)]

[1)]Toshiba Ceramics Co., Ltd., [2)]Dept. of Physics, Toyama University

18:15

18:15

FREE TIME

19:00

BANQUET

21:00

Sept. 27 (Tue)

C. Fundamental properties of the light-mass element impurities O, H, N, C and intrinsic point defects, Complex formations

9:00

9. Properties of hydrogen atoms and molecules in silicon and their interactions with the technologically important impurities (tentative title)
R. Newman
Emeritus Professor: Center for Electronic Materials and Devices, Physics Department, Imperial College of Science, Technology and Medicine

9:45

10. Studies of point defects in Si with the use of hydrogen
M. Suezawa and N. Fukata
Institute for Materials Research, Tohoku University

10:30

COFFEE BREAK

10:45

11. Electronic States and Structures of hydrogen-related defect complexes and motion of hydrogen in Si
Y. Kamiura, K. Fukuda, Y. Iwagami, Y. Yamashita, and T. Ishiyama.
Faculty of Engineering, Okayama University

11:30

12. Dislocation activities in highly boron-doped silicon: In comparison with some impurities
I. Yonenaga
Institute for Materials Research, Tohoku University

12:00

LUNCH

13:00

D. Gettering, Improvement technology for wafer surface integrity, Process-induced defects

13:00

13. The control of vacancy concentration in silicon wafers and the Magic Denuded Zone
R. Falster
MEMC Electronic Materials

13:45

14. Gettering mechanism of Fe, Ni, and Cu in p/p^+ wafers
M. B. Shabani, Y. Shiina, and Y. Shimanuki
Mitsubishi Materials Silicon Corp.

14:15

15. Copper distribution behavior near a SiO_2/Si interface under low-temperature annealing
K. Houzawa, S. Isomae, and J. Yugami
Central Research Laboratory, Hitachi Ltd.

14:45

14:45

16. Intrinsic gettering in advanced low-temperature processes

S. Sadamitu, M. Hourai, and K. Sueoka

Sitix Division, Sumitomo Metal Industries, LTD

15:15

COFFEE BREAK

15:30

17. Characterization of the epitaxial silicon wafer with enhanced gettaring ability fabricated with ion implantation before epitaxial growth

K. Kitahara, M. Tanaka, and Y. Ohta

Advanced Technology Research Laboratories, Nippon Steel Corporation

16:00

18. Control of defects due to ion implantation in Si-LSIs

K. Suguro, A. Murakoshi, H. Akutu, and T. Iinuma

Semiconductor Company, Toshiba Corporation

16:30

19. Ultra-fast diffusion mechanism of the late 3d transition metal impurities in silicon: New proposal for the gettering centers

H. Katayama-Yoshida

The institute of Scientific and Industrial Research, Osaka University

17:00

SHORT INTRODUCTORY TALKS OF POSTERS (3-5 min talk)

19:00

DINNER

20:00

POSTER PRESENTATIONS

22:30

Sept. 28 (Wed)

E. 300-mm crystal: Growth method, Defect state, Ultraflatness of wafer surface

10:00

20. Dislocation-free CZ-Si crystal growth without necking process

K. Hoshikawa, T. Taishi, and X. Huang

Faculty of Education, Shinshu University

10:30

21. New crystal growth technology for defect-free silicon: Electromagnetic Czockralski (EMCZ) method

M. Watanabe[1)*)], M. Eguch[1)], W. Wang[1)], T. Hibiya[1)], and S. Kuragaki[2)]

[1)]Fundamental Research Laboratories, NEC Corporation,

[2)] Sitix Division, Sumitomo Metal Industries Ltd.

[*)] Present affiliation: Department of physics, Gakushuin University

11:00

22. Defects in 300-mm crystal and their control

N. Machida[1)], H. Furuya[1)], Y. Horioka[2)], J. G. Park[3)]

1) Mitsubishi Materials Silicon Corp.,

[2)]Silicon United Manufacturing Corp., [3)]Hanyang University

11:30

23. The impact of wafer topography on ULSI processes

T. Fukuda[1], S. Akiyama[2], and M Yoshise[3]
[1]Fujitsu Ltd., [2]New Creation, [3]Japan ADE Ltd.

12:00

LUNCH

13:00

F. SOI wafers: Demand for SOI, SOI wafer technologies, Characterization method

13:00
24. Demands for SOI wafers from devices
H. Yamamoto, H. Naruoka, and N. Hattori
ULSI Development Center, Mitsubishi Electric Corporation

13:30
25. SIMOX wafer technology
A. Matsumura
Advanced Technology Research Laboratories, Nippon Steel Corporation

14:00
26. Defect characterization in SOI wafers by photoluminescence under ultraviolet-near infrared excitation
M. Tajima and S. Ibuka
Institute of Space and Astronautical Science

14:30
27. Infrared studies of SIMOX/BOX formation
H. Ono
Silicon System Research Laboratories, NEC Corporation

15:00
28. Closing remarks
H. Yamada-Kaneta
Nano-electronic Materials Lab., Fujitsu Laboratories Ltd.,

15:15