

22nd Workshop on Quasicrystal

- the State of the Art -

5-6, March 2018

Place: TOKYO ELECTRON House of Creativity 3 floor, TOHOKU Univ.

Organization: IMRAM

Sponsors: Dynamic Alliance for Open Innovation Bridging Human, Environment and Materials

Network Joint Research Center for Materials and Devices

Tohoku Branch, JIM

TOKYO ELECTRON House of Creativity

5 Monday, March

13:30-13:35 Opening Address: An-pang TSAI (Tohoku Univ.)

Session 1 13:35-14:50 Chair: Yoshiki TAKAGIWA (NIMS)

13:35 Hiroyuki TAKAKURA (Hokkaido Univ.)
X-ray multiple-diffraction in Zn-Sc icosahedral quasicrystal

13:55 Yeong-Gi SO (Akita Univ.)
Direct observation of defect structures in Tsai-type approximants using STEM

14:15 Tunetomo YAMADA (Tohoku Univ.)
Atomic structure of the Au-Ga-Yb 1/1 approximant (15m)

14:30 Tsutomu ISHIMASA (Toyota Physical and Chemical Research Institute)
Structure modeling of new type of dodecagonal quasicrystal

14:50~15:10 Coffee break

Session 2 15:10-17:00 Chair: Kazue NISHIMOTO (Tohoku Univ.)

15:10 Kotoba TOYONAGA (Hokkaido Univ.)
Investigation of growth conditions of Al-Cu-Ru icosahedral quasicrystals from self-fluxes.

15:30 Jhon-ren HUANG (Tohoku Univ.)
Self-organization of Al₂O₃/Quasicrystal composite by oxidation of ω-AlCuFe

- 15:50 Satoshi OHHASHI (Tohoku Univ.)
Preparation of Zn-Mg-Yb quasicrystal and Mg alloys by means of melt spinning system
- 16:10 Koichi KITAHARA (The University of Tokyo)
Introduction of Quasicrystalline Structure Visualization Tool on Web Browser (10m)
- 16:20 Keisuke IDA and Keiichi EDAGAWA (Institute of Industrial Science, Univ. Tokyo)
MD simulation of growth process of decagonal quasicrystals
- 16:40 Nobuhisa FUJITA (Tohoku Univ.)
Model single-component icosahedral quasicrystal

6 Tuesday, March

Session 3 9:20-10:20 Chair: Kaoru KIMURA (The University of Tokyo)

9:20 K. IMAZAWA and Y. ISHII (Chuo Univ.)
Dynamical Flexibility in AlCuFe approximant

9:40 Kazuki NOZAWA (Kagoshima Univ.)
Atomic structure of quasicrystalline Bi ultra-thin film formed on Ag-In-Yb
quasicrystalline substrate

10:00 Akiji YAMAMOTO (NIMS)
Band calculations in quasicrystals: pseudopotential method

10:20~10:40 Coffee break

Session 4 10:40-11:55 Chair: Hiroyuki TAKAKURA (Hokkaido Univ.)

10:40 Alok SINGH (NIMS)
Nucleation of magnesium crystals over icosahedral phase during severe plastic
deformation of Mg-Zn-Y alloy

11:00 Farid LABIB (Tohoku Univ.) (15m)
Phase formation in Mg-Cd-Y system

11:15 Takanobu HIROTO (NIMS)
Search for stable Ga-based quasicrystals and new intermetallic compounds

11:35 Yutaka IWASAKI (The University of Tokyo)
Thermoelectric Properties and Search for condition of insulator transition in Al-Ir
based approximants

11:55~13:30 Lunch

Session 5 13:30-14:50 Chair: Keiichi EDAGAWA (The University of Tokyo)

- 13:30 Akira SAKURAI (Tokyo University of Science)
 Synthesis and magnetic properties of the Au-Al-Tb 1/1 crystalline approximant
- 13:50 Kazuki INAGAKI (Tokyo University of Science)
 Synthesis and magnetic properties of the Au-Ga-Tb 1/1 crystalline approximant
- 14:10 Kazuhiko DEGUCHI (Nagoya Univ.)
 Magnetism and electronic state in icosahedral Au-Ga-Yb quasicrystal and approximant
- 14:30 Keiichiro IMURA (Nagoya Univ.)
 Resonant x-ray emission spectroscopy on Yb-based quasicrystals

14:50~15:10 Coffee break

Session 6 15:10-16:30 Chair: Ryuji TAMURA (Tokyo University of Science)

- 15:10 Takayuki SHIINO (Nagoya Univ.)
 Spin-glass quantum criticality in heavy-fermion system Ag-In-Ce
- 15:30 Noriaki SATO (Nagoya Univ.)
 Low temperature properties of Zn-Ag-Sc quasicrystals and approximants
- 15:50 Takanori SUGIMOTO (Dep. of Applied Physics, Tokyo University of Science)
 Effect of Quasiperiodic Potential in One-Dimensional Topological Superconductor
- 16:10 Taku J Sato (Tohoku Univ.)
 Magnetic structure in the Au-Al-Tb approximant

16:30~16:50 Coffee break

Session 7 16:50-17:20 Chair: Yasushi ISHII (Chuo Univ.)

Invited Speak

- 16:50 Ryo Yoshida (ISM) (30m)
 Machine learning for materials discovery

(The End)

17:30~19:00 B3nquet (TOKYO ELECTRON House of Creativity 1 floor)