Group 3 :

Algebraicity of weakly holomorphic modular founctions at divisors of meromorphic modular forms for certain arithmetic groups

- Speaker : Gyu Cheol Shin (AORC)
- Abstract : Bruinier, Kohnen and Ono found formulae for the infinite product exponents of meromorphic modular forms of weight k for $\mathrm{SL}_2(\mathbb{Z})$ which are determined by the divisors of meromorphic modular forms and $J_m(\tau) := J_1 \mid T(m)$ where $J_1 := j(\tau) - 744$. In this talk, we improve their results for the subgroup of $\mathrm{PSL}_2(\mathbb{R})$ generated by $\Gamma_0(N)$ and Fricke involution W_N For simplicity, we assume that $i\infty$ is not a Weierstrass point on $X(\Gamma)$. This is joint work with Chang Heon Kim.

AORC Monthly Seminar

Mar. 31 (Fri), 2023 @ AORC Seminar Room

SRC Funded by NRF of Korea

AORC 응용대수 및 최적화 연구센터
Applied Algebra & Optimization Research Center

AORC Monthly Seminar

- Object : Active collaboration within and between groups, fitting the aim of SRC
- Plan : Newly-joined researchers take pivotal roles.
- Operations Committee :
  - Woocheol Choi (Committee Chair)
  - Bumtle Kang (Group 1), Juyoung Jeong (Group 2), Bomi Shin (Group 3)

Program

- 2:00 - 2:50 pm : Byung Hee An (Group 1) & discussion
- 3:00 - 3:50 pm : Arumugam Parivallal (Group 2) & discussion
- 4:00 - 4:50 pm : Gyu Cheol Shin (Group 3) & discussion

Abstracts

Group 1 :

Lagrangian fillings for Legendrian links of finite or affine Dynkin type

- Speaker : Byung Hee An (Kyungpook National University)
- Abstract : We prove that there are at least as many exact embedded Lagrangian fillings as seeds for Legendrian links of finite type ADE or affine type $\widetilde{D}\widetilde{E}$. We also provide as many Lagrangian fillings with rotational symmetry as seeds of type B, G_2, $\widetilde{G}_2$, $\widetilde{B}$, or $\widetilde{C}_2$, and with conjugation symmetry as seeds of type F_4, C, $E_6^{(2)}$, $\widetilde{F}_4$, or $A_5^{(2)}$. These families are the first known Legendrian links with (infinitely many) exact Lagrangian fillings (with symmetry) that exhaust all seeds in the corresponding cluster structures beyond type AD.
This is a joint work with Youngjin Bae(INU) and Eunjeong Lee(IBS-CGP).

Group 2 :

Formation control of multi-agent systems: A dynamic event-triggered approach

- Speaker : Arumugam Parivallal (AORC)
- Abstract : In this presentation, we discuss the basic concepts for the formation control problem of multi-agent systems. The main aim of this presentation is to explain how to design an appropriate controller that allows the desired formation of multi-agent systems. In addition, in this presentation, we use an undirected graph to describe the communication between agents in multi-agent systems. Moreover we design a dynamic even-triggered controller to reduce the communication burden during the desired formation of multi-agent systems.