

# **Mini-workshop on "Jamming, rheology and granular matter"**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 10:00 AM (30 minutes)*

**Presenter:** HAYAKAWA, Hisao (Yukawa Institute for Theoretical Physics)

Contribution ID: 2

Type: **not specified**

## Mean-field theory of vibrational density of states of jammed packing

*Wednesday, July 9, 2025 10:30 AM (30 minutes)*

Several mean-field theories predict that the Hessian matrix of amorphous solids converges to the Wishart matrix in the limit of large spatial dimensions. Motivated by these results, we calculate here the density of states of random packing of harmonic spheres by mapping the Hessian of the original system to the Wishart matrix. We compare our result with that of previous numerical simulations of harmonic spheres in several spatial dimensions  $d=3, 5,$  and  $9$ . For small pressure (near jamming), we find a good agreement even in  $d=3$ , and obtain better agreements in larger  $d$ , suggesting that the approximation becomes exact in the limit of large spatial dimension.

**Presenter:** IKEDA, Harukuni (Yukawa Institute for Theoretical Physics)

Contribution ID: 3

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 11:00 AM (30 minutes)*

**Presenter:** NOTO, Kota (Yukawa Institute for Theoretical Physics)

Contribution ID: 4

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 11:30 AM (30 minutes)*

**Presenter:** SAITOH, Kuniyasu (Kyoto Sangyo University)

Contribution ID: 5

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 1:30 PM (30 minutes)*

**Presenter:** OTSUKI, Michio (Shimane University)

Contribution ID: 6

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 2:00 PM (30 minutes)*

**Presenter:** SUZUKI, Ryudo (Kyoto University)

Contribution ID: 7

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 2:30 PM (30 minutes)*

**Presenter:** TAKADA, Satoshi (Tokyo University of Agriculture and Technology)



Contribution ID: 8

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 3:15 PM (1h 30m)*

**Presenter:** LUDING, Stefan (Twente)

Contribution ID: 9

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 5:00 PM (30 minutes)*

**Presenter:** KAWASAKI, Takeshi (Osaka University)

Contribution ID: **10**

Type: **not specified**

**TBA**

*Wednesday, July 9, 2025 5:30 PM (30 minutes)*

**Presenter:** SETO, Ryohei (University of Chinese Academy of Sciences)