

WORKSHOP ON MAXIMUM ENTROPY PRODUCTION: EARTH, LIFE AND PHYSICAL APPROACHES

Yukawa Institute for Theoretical Physics, Kyoto University, Japan

10 - 12 September 2008

PROGRAMME (as of 8 September)

WEDNESDAY, 10 SEPTEMBER 2008

12:00 registration open

AFTERNOON (chair: Hisashi Ozawa)

13:00 Welcome

13:15 Daiichiro Sugimoto: Entropy production and structure formation of sub-systems in the universe

13:45 Garth W. Paltridge: MEP - some history, some research requirements, and a (vaguely) related story about water vapour feedback

14:45 coffee break

15:15 Yasuji Sawada: Concept of Maximum Entropy Production: Thermodynamics of Complex System Far from Equilibrium

16:15 Axel Kleidon: Can thermodynamics help us to understand the role of life in the Earth system and its evolution?

17:15 discussion

THURSDAY, 11 SEPTEMBER 2008

MORNING (chair: Axel Kleidon)

9:00 Jiangnan Li: Maximum or Minimum Dissipation

10:00 Shigenori Murakami, Akio Kitho: Euler-Lagrange equation of the most simple 1D climate model based on the Maximum Entropy Production Hypothesis

11:00 coffee break

11:30 Biao Wang: A primary study on the MEP approach to climatic feedback of clouds

12:30 lunch

AFTERNOON (chair: Jiangnan Li)

14:00 Ralph D. Lorenz: Applications of MEP in the Planetary Sciences

15:00 Kensuke Nakajima: Large-scale spontaneous organization of cloud convection in an idealized model of the earth's tropical atmosphere

- 16:00 coffee break
- 16:30 Ichiro Aoki: Entropy law in aquatic communities and the general entropy principle for the development of living systems
- 17:30 discussion
- 18:30 Conference dinner at Restaurant "Kyo-Shiki" (6000 Y/person, Nakagyo-ku Fuyamachi-dori, Sanjo-agaru, phone: 075-221-4840)

FRIDAY, 12 SEPTEMBER 2008

MORNING (chair: Ralph D. Lorenz)

- 9:00 Zensho Yoshida, S. M. Mahajan: Maximum entropy production in self-organized plasma boundary layer
- 10:00 Hisashi Ozawa: Kolmogorov's power law of turbulence deduced from a state of maximum entropy production
- 11:00 coffee break
- 11:30 Shinya Shimokawa: Maximum Entropy Production in the Oceanic General Circulation
- 12:30 lunch

AFTERNOON (chair: Yasuji Sawada)

- 14:00 Axel Kleidon, Stan Schymanski, Jatin Narula, Marc Stieglitz: Using MEP to upscale pattern formation in semiarid vegetation
- 15:00 Discussion (EU-COST, next workshops etc.)
- 16:00 End of workshop