全国共同利用・共同研究拠点
明治大学先端数理科学インスティテュート
現象数理学研究拠点(CMMA)

MIMS/CMMA Seminar on Self - Organization

第11回 自己組織化セミナー

2015年4月23日（木） 16:30～17:30
明治大学中野キャンパス 6階 研究セミナー室

Rippled Icicle Shapes

Stephen Morris
(University of Toronto)

Abstract

Icicles are harmless and picturesque winter phenomena, familiar to anyone who lives in a cold climate. The shape of an icicle emerges from a subtle feedback between ice formation, which is controlled by the release of latent heat, and the flow of water over the evolving shape. The water flow, in turn, determines how the heat flows. The air around the icicle is also flowing, and all forms of heat transfer are active in the air. Ideal icicles are predicted to have a universal "platonic" shape, independent of growing conditions. In addition, many natural icicles exhibit a ripply shape, which is the result of a morphological instability. The wavelength of the ripples is also remarkably independent of the growing conditions. Similar shape and ripple phenomena are also observed on stalactites, although certain details of their formation differ. We built a laboratory icicle growing machine to explore icicle physics. We learned what it takes to make a platonic icicle and the surprising origin of the ripples.
Work done with Antony Szu-Han Chen.

参加自由です。皆様のお越しをお待ちしております。

・中野キャンパスへのアクセス

JR中央線快速・総武線、東京メトロ東西線／中野駅 下車 北口より徒歩約8分
詳しくは、http://www.meiji.ac.jp/koho/campus_guide/nakano/access.html

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