

— 第15回 No. 15 —

— サロン時間学 —

Salon JIKANGAKU

日時：平成28年8月9日(火)13時30分～

Date & Time : August 9, 2016 (Tuesday) PM1:30～

場所：時間学研究所 所長室

Place : Director room of Research Institute for Time Studies

話題提供者 Topic providers

ティンチェンコ セルゲ 先生
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Prof. Tishchenko Serge

(Specially appointed full-time associate professor of the Research Institute for Time Studies)

サロン時間学とは。。

ヒトの時間、社会の時間、機械の時間、心の時間・・・
この世の、あらゆることから時間と関係しています。
どこにどれだけ「多様な時間の姿」があるのか？
研究の話でも、思いつきでも、突拍子のない考えでも、便乗発言、大いに
歓迎！
気ままに、話の赴くままに、お茶を飲みながら語ってみませんか？

飛び入り参加
途中入退室
OK!

参加自由

英語にて開催

"Time factor in asymptotic computational complexity
and time-optimal divide and conquer algorithms".

We study the time-optimal divide and conquer algorithms and N-separators in weighted (vertices, edges and faces) planar graph (an N-separator of a connected graph G is a subgraph G whose deletion decomposes G into N connected components). A number of papers were inspired by the original paper by Lipton and Tarjan on 2-separators in weighted (only vertices and edges) planar graphs. Their separator construction is very important issue in many graph applications such as VLSI modelling, communication networks, parallel computing. The most complete and recent survey on graph separators was made by Rosenberg and Heath.

One of the possible applications of the separator method is the degree-diameter problem in planar graphs. In this case, the separator method is used for planar graph characterization. The largest graphs in the degree-diameter problem are very dense. Therefore, the simplest Lipton and Tarjan separator which is a cycle obtained by addition of an edge to some edges of a spanning tree becomes an efficient tool in the degree-diameter problem. Each of two separated subsets is either the interior or the exterior of the cycle. Further progress can be achieved in the degree-diameter problem increasing the number of separated subsets. In general, an N-separator is needed consisting of several cycles. We optimize the separator construction in plane graphs with weighted vertices, faces and edges. Such generalization is important for practical applications. We consider the problem of existence of an N-separator in a planar graph and give optimal bounds to the minimum weight component.

