

# Guangzhou Discrete Mathematics Seminar



## *Circuit covers of signed graphs*

**Ronggui Xu**

University of Science and Technology of China, Hefei, China

17 December 2021 (Friday), 11am to 12pm

Room 519, School of Mathematics, Sun Yat-sen University

Tencent meeting ID: 184 018 751

A *signed graph*  $(G, \sigma)$  is a graph  $G$  associated with a signature  $\sigma : E(G) \rightarrow \{+1, -1\}$ . In a signed graph, a *sign circuit* is a subgraph of the following three types: a balanced circuit (which is a connected 2-regular subgraph with even number of negative edges), a short barbell, or a long barbell. A signed graph is called *flow-admissible* if each edge lies in a sign circuit. In this talk, we show that every flow-admissible 3-edge colorable cubic signed graph with  $m$  edges can be covered by some sign circuits whose total length is at most  $\frac{20}{9}m$ . This is a joint work with Jiaao Li and Xinmin Hou.

**Guangzhou Discrete Mathematics Seminar**

Website <http://www.gzdmseminar.cn>

Mirror site <http://www.cantab.net/users/henry.liu/gzdmseminar.htm>



QR code of the  
seminar series