Date: 2020.4.1

Place: Tencent meeting （腾讯会议，具体地址将于报告前半小时在微信群公布）

Title: Crossing probability in Gaussian Free Field.

Speaker: Hao Wu

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Abstract:

Two-dimensional Gaussian free field (GFF) is a natural 2D time analogue of Brownian motion. It is also known as free bosonic field in physics literatures, and it is the building block in conformal field theory, quantum gravity and statistical physics. In this talk, we focus on estimates of crossing probability in GFF. Such crossing probability is a delicate quantity for GFF. We will introduce discrete GFF (dGFF) and metric graph GFF (mGFF). Both objects converge to continuum GFF as distributions. However, the crossing probabilities in dGFF and in mGFF are distinct. To derive the scaling limits of crossing probabilities in dGFF and in mGFF, we will introduce Schramm Loewner evolution (SLE). It turns out that the crossing probability in dGFF converges to the so-called pure partition functions of multiple SLEs, and that the crossing probability in mGFF converges to the ``fusion" of pure partition functions.

This talk is based on joint works with J. Ding, M. Wirth, and with M. Liu.