

Some recent results on chordal Komatu-Loewner equation

Takuya Murayama
Kyushu University, Fukuoka, Japan

Abstract

In 1950, Y. Komatu tried to extend the Loewner differential equation toward finitely connected planar domains. After entering the 21st century, such an attempt began to draw the attention of some probabilists, who aim to apply it to the theory of (stochastic) Schramm-Loewner evolution (SLE). However, compared with the classical Loewner theory, the basis for the Komatu-Loewner equation was insufficient to develop complex analysis and stochastic calculus for SLEs. It was one of the problems that the moduli enter the picture. In this talk, I'll explain how this situation was overcome by some researchers. Their results correspond to Loewner's original "slit mapping theorem", but I'll also mention a result (of mine) which corresponds to general Loewner chains (such as in Pommerenke's famous book) in a finitely connected domain.