東北大学大学院情報科学研究科
純粋・応用数学研究センター

情報数理談話会のお知らせ

日　時：2013年12月11日(水) 15:30 — 16:30
(15:10より会場にお茶を用意しております)
場　所：東北大学大学院情報科学研究科棟2階大講義室

講演者：張 坦然 氏（東北大学大学院情報科学研究科）
題　目：Asymptotic behavior of conformal metrics on Riemann surfaces with negative curvatures near isolated singularities
備　考：この情報数理談話会は課程博士予備審査会を兼ねています

[概要] The asymptotic behavior of conformal metrics with negative curvatures near an isolated singularity for at most second order derivatives was described by Kraus and Roth in one of their papers in 2008. This work was done by means of some special partial differential equations (PDEs) and had tight connection with Schwarzian derivatives. The main tool they used was potential theory. First we obtained the explicit formula of higher order derivatives for the logarithmic potential. On that basis, this talk will give the estimate for higher order derivatives near an isolated singularity. We will also compute some limits of Minda-type for higher order derivatives near a cusp. Combining these limits with the Ahlfors' lemma which is actually the maximum principle for conformal metrics with negative curvatures, we will provide some observations for a special conformal metric with negative curvature: SK-metric, whose concept was given by Heins in 1962.

ホームページ：http://www.math.is.tohoku.ac.jp/research/colloquium.html