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：　2014年6月4日 (水) 13:30 – 14:30
(13:10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階中講義室

講演者：　蒋 艷 氏（東北大学大学院情報科学研究科）
題　目：　Value distribution of $f^l(f^{(k)})^n$ for a transcendental meromorphic function f

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] In this talk, a meromorphic function will mean that on the complex plane unless otherwise stated. One of the aims of the value distribution theory of meromorphic function is to study the distribution of its zeros and poles. For a transcendental meromorphic function f, it is an interesting problem to decide whether the differential monomial of the form $f^l(f^{(k)})^n$ can assume every value infinitely often (possibly except for zero) or not. Many papers have been devoted to this problem. However, most of them deal with the case when k, l, n are not too small integers. We will start the talk with a brief historical exposition and preliminaries. Then, we give our main estimates related to the monomial $f^l(f^{(k)})^n$ with $k, l, n > 1$ or $k = 1, l = 2, n > 1$. The main tools are radial Nevanlinna characteristics and its properties. However, a large part of this work has involved a recent result of Yamanoi, as well as improving the method due to Li and Yang. Furthermore, we present some applications of the estimates to the Nevanlinna deficiency and normality criteria.

日　時： 2014 年 6 月 4 日 (水) 14:50 – 15:50
場　所： 東北大学大学院情報科学研究科棟 2 階中講義室

講演者： 大野 林太郎 氏（東北大学大学院情報科学研究科）
題　目： A study on concave functions in geometric function theory

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[概 要] Similar to convex, close-to-convex or starlike functions, *concave functions* form a special class in the geometric function theory. Meromorphic functions with a simple pole inside the unit disk are said to be concave, if they map the unit disk conformally onto the complement of a closed convex set. In this presentation we will introduce the basic analytic characteristics of concave functions. We will also take a closer look at the coefficients of these functions using integral representations and extensions to the necessary and sufficient conditions.

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