

東北大学大学院情報科学研究科数学教室
情報数理談話会のお知らせ

日 時： 2012年5月15日(火) 16:00 から 17:00 まで

(15:40 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： Edy Tri Baskoro 氏 (Institut Teknologi Bandung)

題 目： On the existence of (d, k) -digraphs

〈概要〉 Let G be a (d, k) -digraph, namely a diregular digraph of degree $d \geq 2$, diameter $k \geq 2$ and order $d + d^2 + \dots + d^k$, one less than the Moore bound. Such a digraph is also called as an *almost Moore digraph*. The study of the existence of (d, k) -digraphs has received much attention. Fiol, Allegre and Yebra (1983) showed the existence of $(d, 2)$ -digraphs for all $d \geq 2$. In particular, for $d = 2$ and $k = 2$, Miller and Fris (1988) characterized all $(2, 2)$ -digraphs. Furthermore, Gimbert (2001) proved that there is only one $(d, 2)$ -digraph for any $d \geq 3$. However for degree 2 and diameter $k \geq 3$, it is known that there is no $(2, k)$ -digraph (Miller and Fris, 1992). Furthermore, it was proved that there is no $(3, k)$ -digraph with $k \geq 3$ (Baskoro, Miller, Siran and Sutton, 2005). Thus, the remaining case still open is the existence of (d, k) -digraphs with $d \geq 4$ and $k \geq 3$. Several necessary conditions for the existence of (d, k) -digraphs, for $d \geq 4$ and $k \geq 3$, have been obtained. In this talk, we shall discuss some necessary conditions for these (d, k) -digraphs. Open problems related to this study are also presented.

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