



Theoretical Statistics and Mathematics Unit

Monday Colloquium

Date: June 13, 2016

Time: 04:15 P.M.

Venue: L^∞ , Stat-Math Unit (5th Floor, A.N. Kolmogorov Bhavan)

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A curious property of polynomials.

Abstract

Let k be a field and α be an algebraic element over k . Given an element β in $L = k(\alpha)$, it is a natural question to ask when it is a primitive element, i.e. $L = k(\beta)$.

If $f(X)$ denotes the minimum polynomial of α over k , then we ask if $\beta = f'(\alpha)$ is a primitive element. While this is easily seen to be false in positive characteristic, it is an intriguing question in characteristic zero.

We will discuss results when $f'(\alpha)$ is a primitive element. The concept has applications in study of the epimorphism problem in three dimension (a natural generalization of the celebrated Abhyankar-Moh Epimorphism Theorem.)

All are cordially invited

