

Open Talk

16th January, 2019

4:00 PM

Boson

SPEAKER

Professor Sarbarish Chakravarty

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TITLE OF THE TALK

Nonlinear ODEs whose solutions are modular functions

ABSTRACT

Dubrovin [Lecture Notes in Math., Vol. 1620, Springer, Berlin, 1996, 120–348] showed that the Chazy XII equation is equivalent to a projective-invariant equation for an affine connection on a one-dimensional complex manifold with projective structure. By exploiting this geometric connection it is shown that the Chazy XII solution can be expressed using the solutions of the generalized Darboux–Halphen system. This relationship holds only for certain values of the coefficients and the Darboux–Halphen parameters. Consequently, the Chazy XII solution $y(z)$ is parametrized by a particular class of Schwarz triangle functions which are used to represent the solutions of the Darboux–Halphen system.

HOST FACULTY

Professor Partha Guha

Senior Professor

Department of Theoretical Sciences

S. N. Bose National Centre for Basic Sciences