

COLLOQUIUM
CENTER FOR APPLIED MATHEMATICS AND SCIENCE
DEPARTMENT OF MATHEMATICS
UNIVERSITY OF WEST GEORGIA

1:00 PM, FRIDAY, APRIL 3, 2015, BOYD 306

Speaker: Dr. Alexei Rybkin
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Title: Hankel operators and the Korteweg-de Vries equation

Abstract:

The main objective of this talk is to link Hankel operators and the Cauchy problem for the Korteweg-de Vries (KdV) equation. We show that the solution to the KdV equation can be expressed in closed form in terms of the Hankel operators which symbol is conveniently represented in terms of the Titchmarsh-Weyl m -functions associated with the initial data. This approach allows us to extend the techniques of the inverse scattering transform far beyond the realm of short range initial profiles. As a byproduct we improve and extend many previously known results by others.

All are welcome.