1099-35-394 **Vladimir Zakharov*** (zakharov@math.arizona.edu), Department of Mathematics, The University of Arizona, 617 N. Santa Rita Ave., Tucson, AZ 85721, and **Dmitry Zakharov**.

Knoidal wave via dressing method. Preliminary report.

We study bounded solutions of the KdV equation. We show that the corresponding wave functions, the compatible solutions of auxiliary system of linear equation, are analytic on the plane of spectral parameter with exception of symmetric set of cuts on the real axis. On these cuts they satisfy certain Riemann-Hilbert and corresponding singular integral equation. The case of knoidal wave is used as a test bed. (Received February 11, 2014)