

1126-00-174

**Roozbeh Gharakhloo\*** (rgharakh@iupui.edu), 402 N. Blackford St., Indianapolis, IN 46202, and **Alexander Its** (aits@math.iupui.edu), 402 N. Blackford St., Indianapolis, IN 46202. *On the asymptotic analysis of Toeplitz + Hankel determinants*. Preliminary report.

We want to analyse the asymptotics of a Toeplitz+Hankel determinant with Toeplitz symbol  $\phi(z)$  and Hankel symbol  $w(z)$ . When symbols  $\phi(z)$  and  $w(z)$  are related in specific ways, the asymptotics of T+H determinants have been studied by E. Basor and T. Ehrhardt and by P. Deift, A. Its and I. Krasovsky. The distinguishing feature of this work is that we do not assume any relations between the symbols  $\phi(z)$  and  $w(z)$ . In this talk, the Hankel symbol is a modified Jacobi weight and the Toeplitz symbol is assumed to be analytic in a neighborhood of the unit circle. we approach this problem by analysing a 4 by 4 Riemann Hilbert problem. This work is part of the joint research project with Alexander Its, Percy Deift and Igor Krasovsky. (Received January 12, 2017)