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Peter Topalov* (p.topalov@neu.edu). *Qualitative features of the periodic solutions of KdV.*

We discuss some new qualitative features of the solutions of the KdV equation on the circle. The main result states that the KdV solution map can be approximated in H^{N+1} uniformly on bounded sets of H^N , $N \geq 0$, by simple trigonometric expressions involving the KdV-frequencies. (This is a joint work with T. Kappeler and B. Schaad.) (Received August 31, 2012)