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Title: Qualitative features of periodic solutions of KdV

Abstract: I will discuss two new results related to the qualitative properties of the solutions of the KdV equation on the circle.

The first result says that the Fourier coefficients of a solution of KdV in Sobolev space H^N , $N \geq 0$, admit a WKB type expansion up to first order with strongly oscillating phase factors defined in terms of the KdV frequencies. The second result provides estimates for the approximation of such a solution by trigonometric polynomials of sufficiently large degree.