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Analysis of the CH equation and family

In this talk we shall examine the various facets of the analysis of the Camassa-Holm (CH) equation and a related family of equations. Our focus will be on the well-posedness and ill-posedness of their initial value problem. In particular, we shall examine a number of interesting properties that they possess (like peakons) and influence their analysis. The talk is based on work with C. Holliman, C. Kenig, G. Misiolek, G. Petronilho, and G. Ponce.