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Towards the complete classification of integrable Camassa-Holm type equations

After 30 years of discovery of the Camassa-Holm equation the complete classification of integrable equations of this type remains an open problem. Camassa-Holm type equations can be viewed as negative flows of hierarchies of integrable evolutionary partial differential equations. There are various approaches to tackle integrability of negative flows. In this talk I will review various integrability tests applicable to such type systems and present the classification results. Some of the thus found equations are new.