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Shallow Water asymptotics And Their Governing Equations: The B Family.

We talk about several qualitative properties of the classical Korteweg-de Vries, Camassa-Holm and Degasperis-Procesi equations. We first establish the models of the Camassa-Holm and Degasperis-Procesi equations, deriving them from the shallow water wave argument and then compare a large class of properties relating to all three equations. We finally provide a survey of recent results by saha and liu pertaining to the Degasperis-Procesi equation and Camassa-holm equation and state some proposals for future research on this equation.

Keywords:Camassa-Holm(CH) and Degasperis-Procesi(DP) equations ; periodic b-family ;blow-up;local existence;global existence. (Received February 05, 2010)