Non-travelling wave type solutions with peak singularities to the generalized Camassa -Holm equation

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Abstract: This talk deals with integrable multicomponent generalizations of the Camassa-Holm equation. In several special cases the Camassa-Holm type equation can be reduced to the Hunter-Saxton equation that possesses weak solutions. We construct peakon type solutions and find explicit formulas for them. The corresponding integral surface S is partially ruled. Then the two dimensional (t, x) plane is separated in finitely many strips by N smooth curves Γ_j. We find the asymptotic of the solutions in each strip between Γ_j, Γ_{j+1} for $t \to \infty$ and we find several geometrical invariants of S as Gauss curvature etc. Certainly, S has not the form of travelling wave.