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Felipe Linares, Gustavo Ponce* (ponce@math.ucsb.edu) and **Thomas C. Sideris**. *Special properties of solutions to the IVP associated to the Camassa-Holm equation on the line.*

We shall study special properties of solutions to the IVP associated to the Camassa-Holm equation on the line related to the regularity and the decay of solutions. The first aim is to show how the regularity on the initial data is transferred to the corresponding solution in a class containing the peak on solutions. Using this we shall show that the decay results obtained Himonas-Misiolek-Ponce-Zhou extend to this class of solutions. (Received September 14, 2016)