

1132-35-117

Alex Himonas* (himonas.1@nd.edu), Notre Dame, IN 46556. *Norm inflation and non-uniqueness for the Novikov equation.*

Novikov's equation is an integrable equation that can be thought of as a cubic analogue to the well-known Camassa-Holm equation. Using appropriate 2-peakon solutions, we prove that when one takes initial data in Sobolev spaces with exponents less than $3/2$ the data-to-solution map becomes discontinuous in the sense of norm-inflation. Additionally, if the Sobolev exponent is less than $5/4$, it is possible to construct non-unique solutions. This is a joint work with Curtis Holliman and Carlos Kenig. (Received July 17, 2017)