

MATHEMATICS DEPARTMENT  
North Carolina State University

## DIFFERENTIAL EQUATIONS SEMINAR

Wednesday, March 24, 2004  
2:35 p.m. 330 Harrelson Hall

**Konstantina Trivisa**

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### “Continuous Glimm-type functionals in hyperbolic systems of conservation laws”

In this talk I will present results on the decay of solutions for hyperbolic systems of conservation laws as well as for systems of hyperbolic balance laws with general flux.

The main tools in this investigation are continuous Glimm-type functionals. Following the work of Baiti-Bressan on genuinely nonlinear systems and the work of LeFloch-Trivisa for systems with general flux, we show how such functionals can be extended to general functions with bounded variation, and we investigate their lower semi-continuity properties with respect to the strong  $L^1$  topology.

The results that will be presented apply to the functionals introduced by Iguchi-LeFloch and Liu-Yang for systems with general flux-functions, to the functional introduced by Baiti-LeFloch-Piccoli for the study of nonclassical entropy solutions, as well as to functionals introduced by Trivisa for the study of a class of hyperbolic balance laws with general flux.

As an illustration of the use of continuous Glimm-type functionals, we provide results on the decay of solutions to these systems.

**Graduate students are invited to attend.**

For questions, comments, and offers to talk, contact Steve Schecter, [schecter@math.ncsu.edu](mailto:schecter@math.ncsu.edu).  
Please visit the DE Seminar web page at [www.math.ncsu.edu/seminars.html](http://www.math.ncsu.edu/seminars.html).