



A unified treatment of ODEs under Osgood and Sobolev type conditions

[Huaiqian Li](#), [Dejun Luo](#)

(Submitted on 13 Jul 2011)

In this paper we prove the existence, uniqueness and regularity of the DiPerna--Lions flow generated by a vector field which is "almost everywhere Osgood continuous", following Crippa and de Lellis's direct method. As an application, we show the well-posedness of transport equations in the space of nonnegative integrable functions.

Comments: 14 pages

Subjects: **Classical Analysis and ODEs (math.CA)**

Cite as: [arXiv:1107.2496](#) [math.CA]

(or [arXiv:1107.2496v1](#) [math.CA] for this version)

Submission history

From: Dejun Luo [[view email](#)]

[v1] Wed, 13 Jul 2011 09:27:57 GMT (14kb)

[Which authors of this paper are endorsers?](#)

Link back to: [arXiv](#), [form interface](#), [contact](#).

Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

math.CA

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1107](#)

Change to browse by:

[math](#)

References & Citations

- [NASA ADS](#)

Bookmark([what is this?](#))

