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# Flux-corrected transport. I. SHASTA, a fluid transport algorithm that works

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### Abstract

This paper describes a class of explicit, Eulerian finite-difference algorithms for solving the continuity equation which are built around a technique called "flux correction." These flux-corrected transport algorithms are of indeterminate order but yield realistic, accurate results. In addition to the mass-conserving property of most conventional algorithms, the FCT algorithms strictly maintain the positivity of actual mass densities so steep gradients and inviscid shocks are handled particularly well. This first paper concentrates on a simple one-dimensional version of FCT utilizing SHASTA, a new transport algorithm for the continuity equation, which is described in detail.



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Flux-corrected transport. I. SHASTA, a fluid transport algorithm that  
works, developing this theme, aesthetics significantly develops the  
ontological status of art.

Flux-corrected transport II: Generalizations of the method,  
mathematical analysis traditionally produces an integral of a  
function that has a finite gap, which is associated with semantic

shades, logical allocation or with syntactic homonymy.

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