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Reduction of Volume-preserving Flows on an n-dimensional Manifold

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摘要   A geometric reduction procedure for volume-preserving flows with a volume-preserving symmetry on an n-dimensional manifold is obtained. Instead of the coordinate-dependent theory and the concrete coordinate transformation, we show that a volume-preserving flow with a one-parameter volume-preserving symmetry on an n-dimensional manifold can be reduced to a volume-preserving flow on the corresponding (n-1)-dimensional quotient space. More generally, if it admits an r-parameter volume-preserving commutable symmetry, then the reduced flow preserves the corresponding (n - r)-dimensional volume form.

关键词   non-autonomous   lienard system   periodic solution
分类号

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