

## A Note on Symplectic, Multisymplectic Scheme in Finite Element Method

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**Abstract:** We find that with uniform mesh, the numerical schemes derived from finite element method can keep a preserved symplectic structure in one-dimensional case and a preserved multisymplectic structure in two-dimensional case respectively. These results are in fact the intrinsic reason why the numerical experiments show that such finite element algorithms are accurate in practice.

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