

DOI	https://doi.org/10.1016/j.compstruc.2006.09.004
Title	Conserving energy and momentum in nonlinear dynamics: A simple implicit time integration scheme
Background	
Why this paper? How'd you find it?	
Study Objective	To be "aware of" that there are different numerical properties we should pay attention to when it comes to nonlinear dynamic problems that are very common in our field nowadays
Intended gaps to fill	Introduce and evaluate a numerical integration scheme for nonlinear dynamic analysis, which conserves energy and momentum (stability for nonlinear dynamic problems). In addition, the scheme provides moderate numerical damping for damping out the unwanted high frequency modes.
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Funding Source	
Journal / Field	Computers and Structures
Date	2007
Historical Context	
Relationship to SEMM	Linear/ Nonlinear structural analysis, solid mechanics
Methods	
Given:	Using two stiff nonlinear dynamic problems to evaluate the stability and the numerical dissipation of the introduced numerical scheme
Find:	The numerical scheme conserves energy and momentum and provides moderate numerical damping which is good for damping out the unwanted high frequency modes. The results also show that using large time steps will result in more amplitude decay which may be undesirable.
Conclusions	
Authors'	
Yours	
Applications	