New Features in LS-DYNA EFG Method for Solids and Structures Analysis

C. T. Wu

LSTC

Summary:

In this presentation, an update on LS-DYAN EFG method for solids and structures analysis will be given. Several features were developed in the past two years to solve specific challenging problems as well as to improve the efficiency. This talk will emphasize on three new features including an adaptive Meshfree scheme based on a local Maximum Entropy approximation for metal forging and extrusion analysis, a semi-Lagrangain formulation in foam materials under severe compression, and a discrete meshfree approach in the failure analysis of brittle materials. Several practical examples are included to demonstrate these capabilities.

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LSTC Livermore Software Technology Corp.			Input Format *SECTION_SOLID_EFG							
Domain Integration Schemes										
	Variable	DX	DY	DZ	ISPLINE	IDILA	IEBT	IDIM	TOLDEF	
Card 2	Туре	F	F	F	Ι	Ι	Ι	Ι	F	
	Default	1.01	1.01	1.01	0	0	1	1	0.01	
 IEBT EQ. 1: Full transformation (default) EQ1: (w/o transformation) EQ. 2: Mixed transformation EQ. 3: Coupled FEM/EFG EQ. 4: Fast transformation EQ4: (w/o transformation) EQ. 5: Fluid particle (trial version) EQ. 7: Modified Maximum Entropy approximation IDIM EQ. 1: Local boundary condition method (default) EQ. 2: Two-points Guass integration EQ1: Stabilized EFG method 										
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