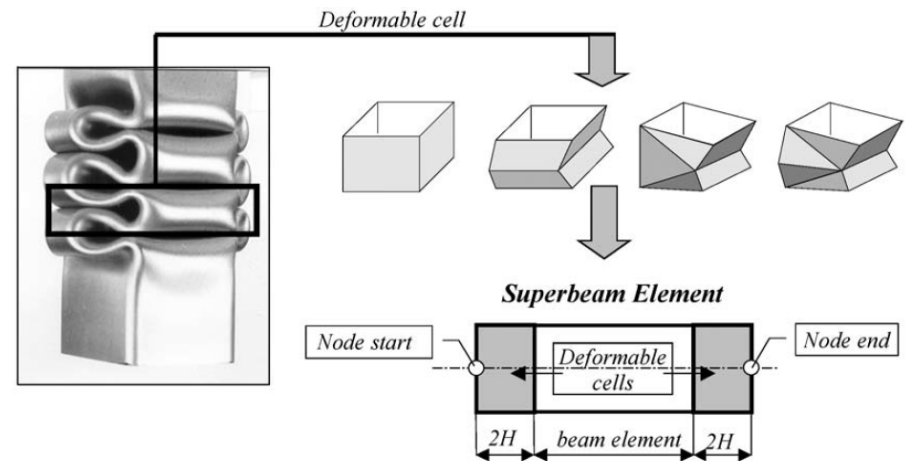


Macro Element Method for Crashworthiness Analysis

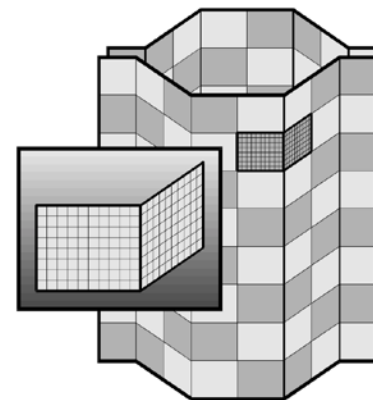
Software Lab Project 2013
Pablo Lozano, M.Sc.
FG Computational Mechanics

Introduction

- Alternative to FEM
- Good for conceptual design
- Mimics folding pattern
- Super Beam Elements
- Coarser discretization
- Faster but less accurate



SBE modeling concept (Abramowicz 2004).



Coarser discretization (Abramowicz 2001).

Project

- Implementation of a software based on the macro element method
- Crashworthiness analysis
- Study of prismatic columns
- S-Bend experiment
- Coupled systems
- Written in Python
- LS-Dyna for comparison of results

