

BREDGES & ENVIRONMERT: Development of an Iterative Scouring Procedure for Implementation in CFD Code for Different Bridge Flooding Conditions



WORLD SCIENTIFIC AND ENGINEERING ACADEMY AND SOCIETY
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**The 3rd International Conference on
ENERGY PLANNING, ENERGY SAVING, ENVIRONMENTAL EDUCATION
(EPESE'09)**

La Laguna, Tenerife, Canary Islands, Spain, July 1-3, 2009

<http://www.wseas.us/conferences/2009/lalaguna/epese>



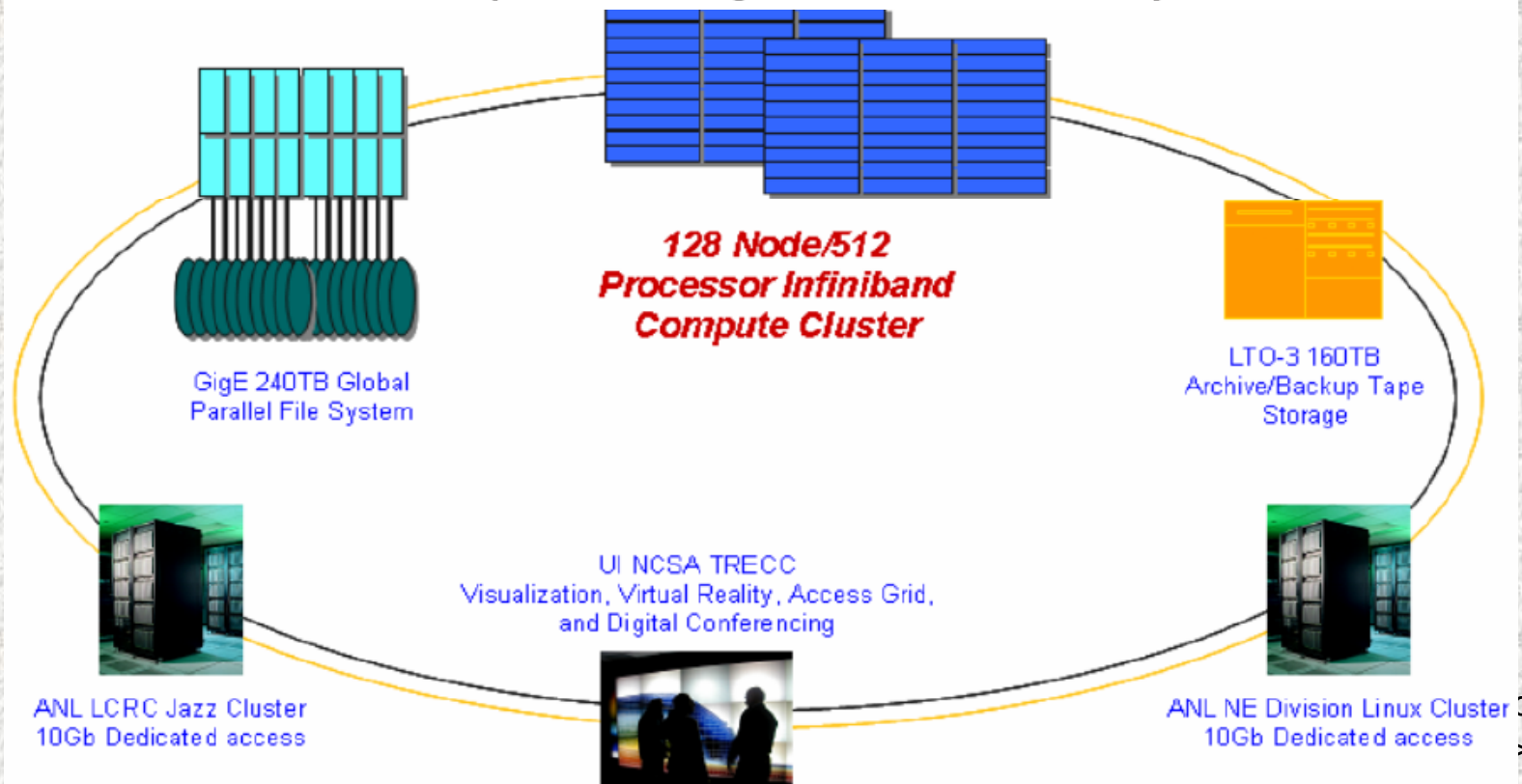
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RESEARCH BULLETIN

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Modeling, Simulation and High Performance Computing Resources for the US Department of Transportation at Argonne National Laboratory



Bridge Scour Failure



Courtesy : MAB1053 Introduction to Bridge Engineering
Universiti Teknologi Malaysia

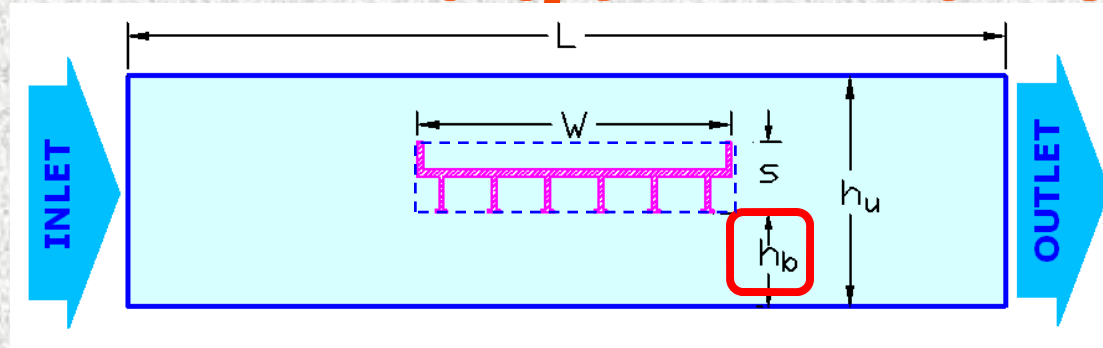
Gafanha bridge in Aveiro



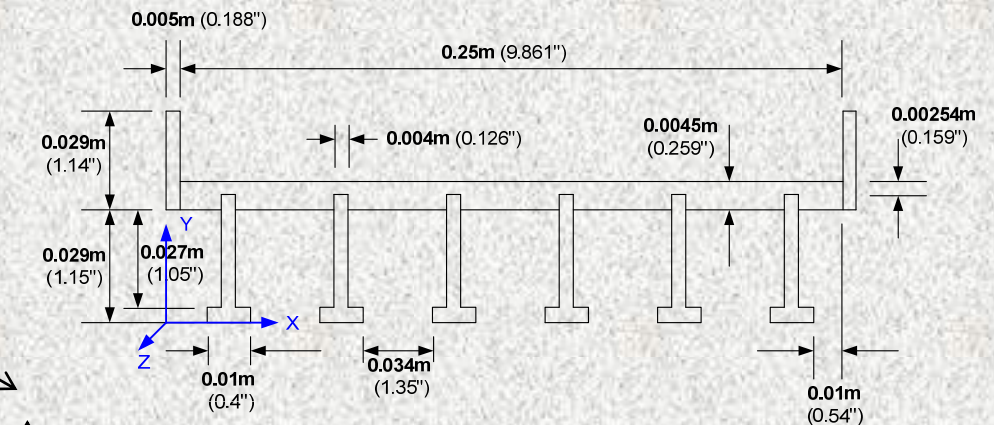
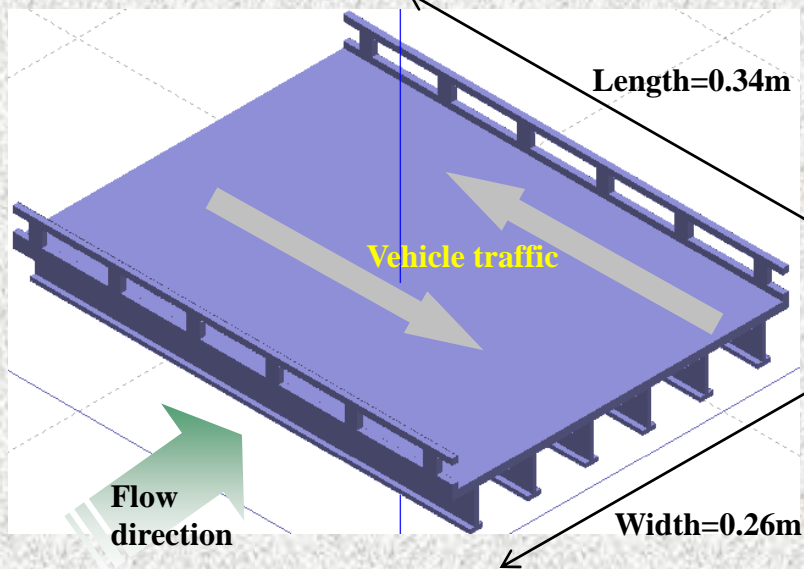
<http://www.dha.lnec.pt/nre/english/projects/erosoes.htm>

Bridge Dimensions

Characteristic dimensions for the channel and the bridge



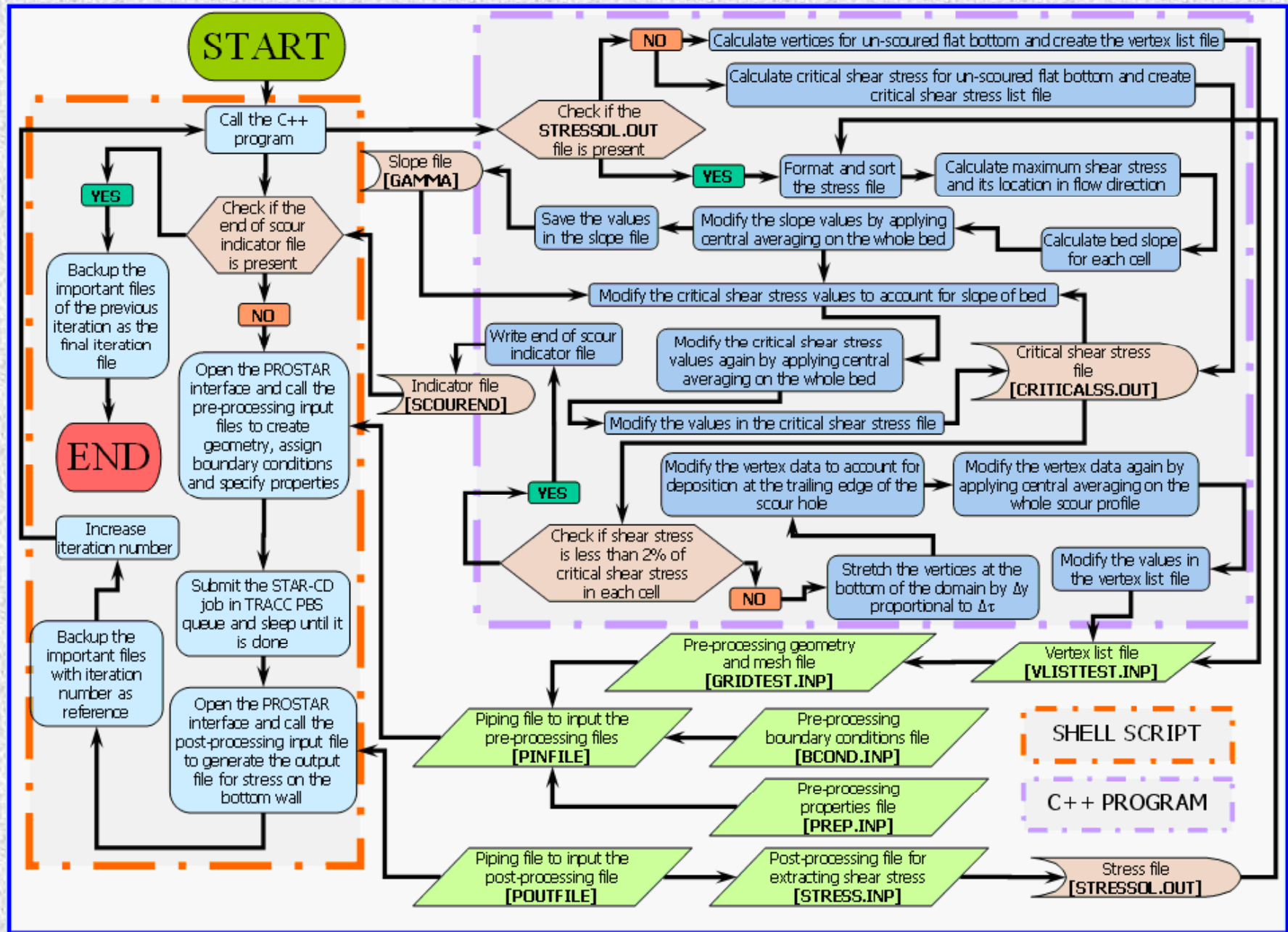
Basic dimensions of the bridge deck



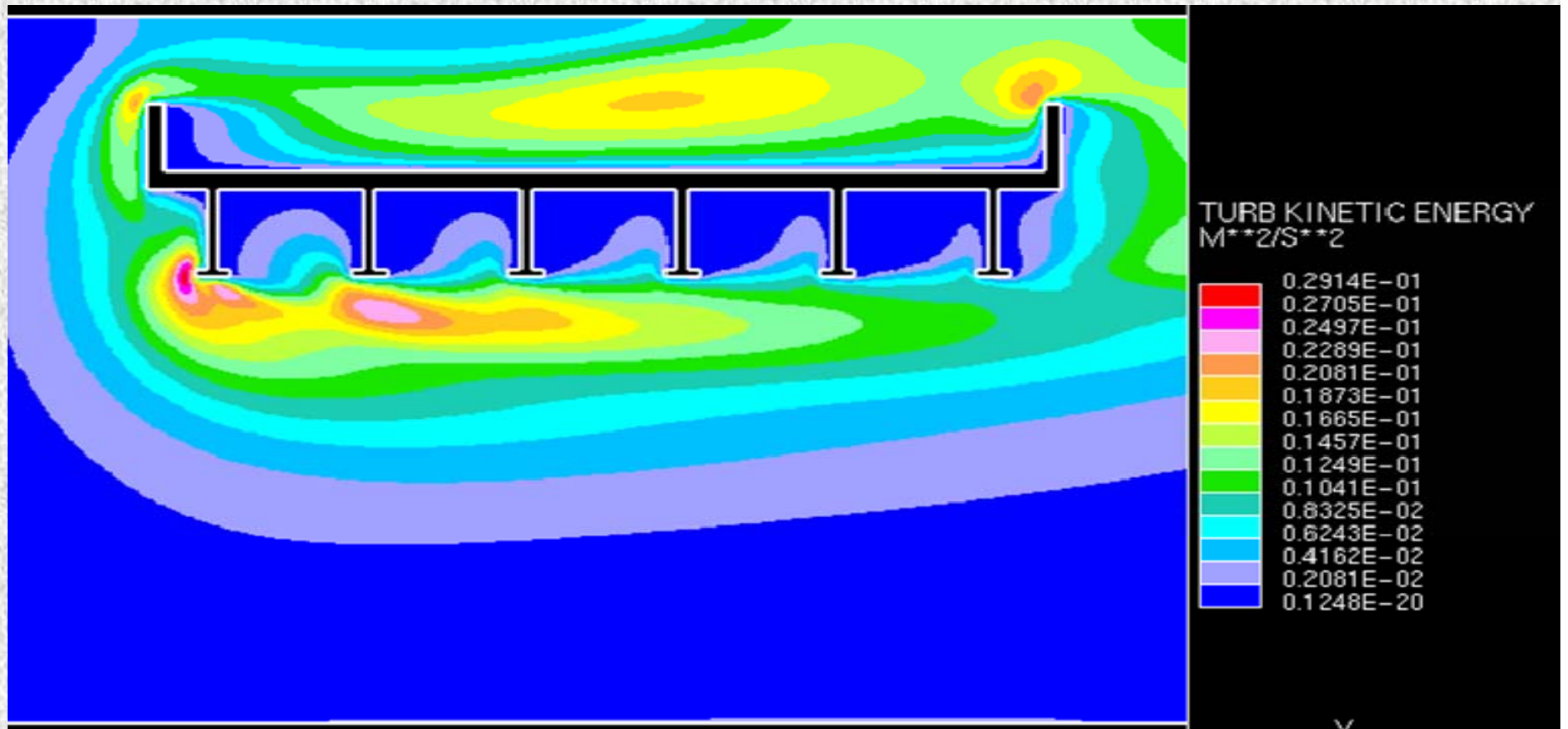
Height=0.058m

Detail view an dimension of the six-girder bridge deck

Flowchart



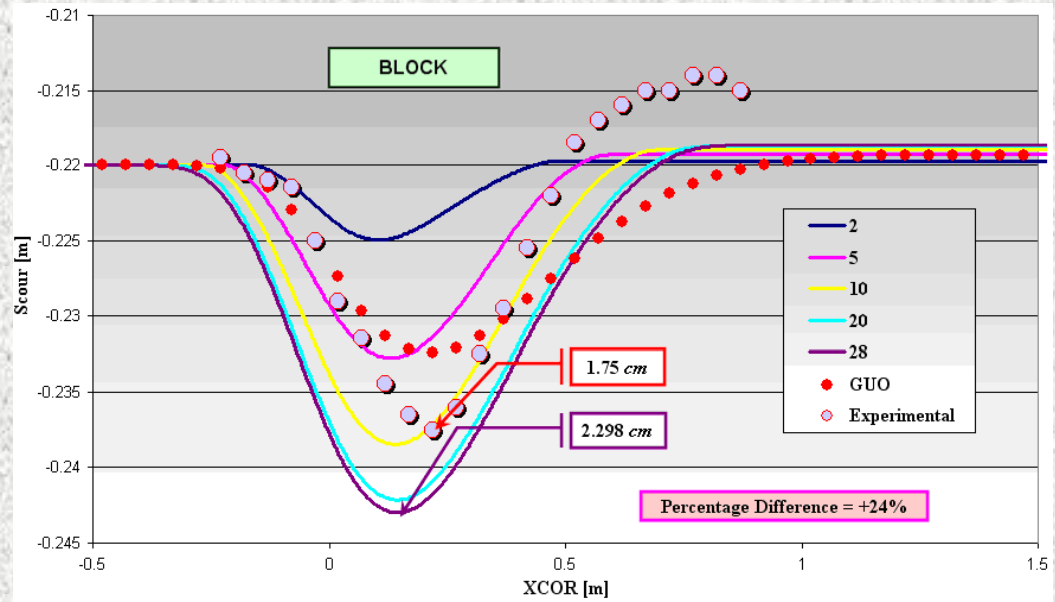
The CFD Simulation of Flooding Flows



2009 January 10-12

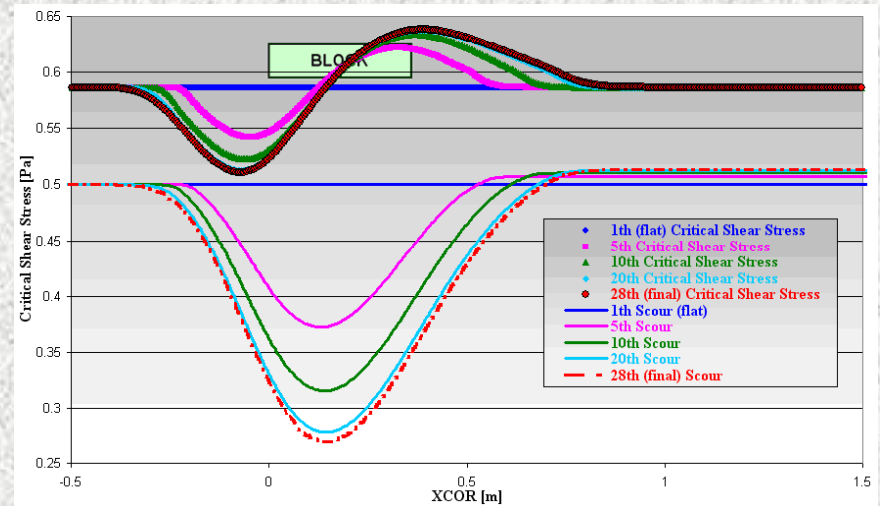
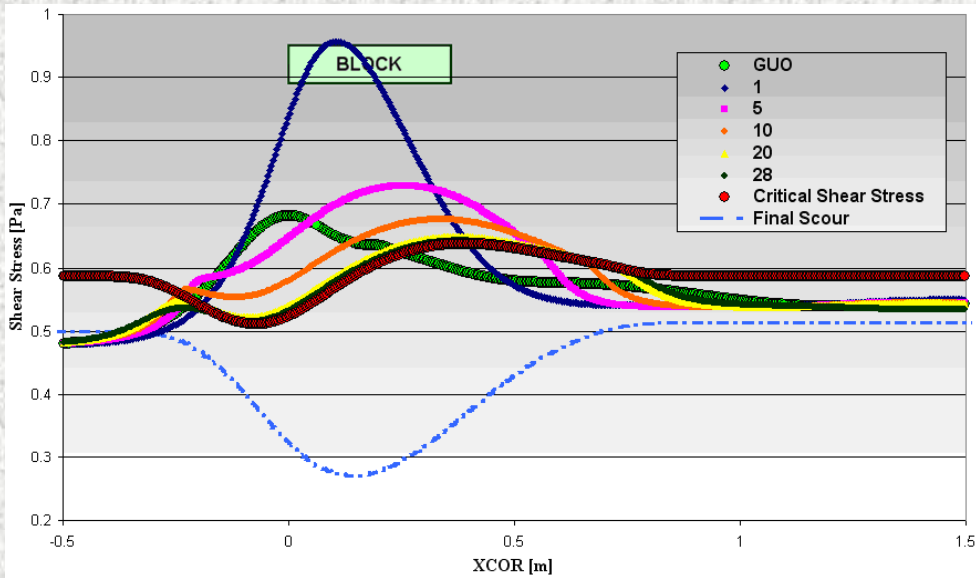
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22 cm h_b



Scour Evolution

Shear Stress Evolution



Critical Shear Stress Evolution

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