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Modelling fluvial process using the finite volume method

(Ernest Blade)

Communication skills1

In the introduction part professor talks about software related to finite element volume. I think that it is better to talk more about software for students who are not familiar with those software. For hydrodynamic shallow water equation gives good concept of this part for audience because he explains whole concept about characteristic.

The example of cantered scheme and upwind scheme are very nice because professor shows animated for both of them and it can be really helpful for them because they can compare between these two methods and real life.

In numerical method for shallow water equation in 2D professor gives nice lecture related to Finite element volume this is the strength part of lecture. For shallow water explains about flux mass and momentum are used to update variable.

In Roe scheme he skip some parts and I think that it is important because if you neglected those parts it causes some misunderstanding for students so it is nice to spend more time in this part.

In SWE in FV professor shows some picture and animated related to mesh flexibility and explain element in river, dam and fish scale. For shock capturing the video can help to student to realize what happen for this part and professor gives us incredible information about the balance of mass and momentum in each time step in each volume and it contains comprehensive information for audience and in the next step for simulation talks about mesh, initial condition, boundary condition and roughness, but for result I think that professor goes very fast It is important that audience see the data for result in chart and picture.

Sediment transport explains sediment conservation equation with image and next step about Bedload transport he writes formula related to Bedload transport and make it easy for audience.

For water quality he shows charts, pictures and animated for student and it is more interesting part of lecture.

I think that this seminar is very nice because it is really comprehensive and most of student achieve a good information related to finite element volume that really interesting for who like to focus on this subject in computational mechanics major because everything in computational has relationship with finite element.