

Critical review of «Modelling of machining by PFEM», 20.11.19

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The seminar «Modelling of machining by PFEM» was held Wednesday 20th of November by Josep Maria Carbonell i Puigbó. The seminar described how far the field of modelling machining of metals has come, with a special focus on the work done at the UPC. The method of machining was described briefly as an introduction before focusing on the numerical modelling and the difficulties in implementing both mechanical forces and thermal actions at both the workpiece and cutting tool. Different numerical methods were described, and it was justified why the Particle Finite Element Method (PFEM) was preferred.

Even without any background knowledge in this field I found this seminar interesting. The speaker had a monotone, but clear voice, that made it easy to listen to what he was saying. One thing that was missing in his appearance was a connection with the audience. He was talking a lot against the wall because he tried to describe what was shown at the screen. This made the slides more in focus than the speaker, so instead of him guiding the presentation one could get the impression that the presentation was guiding him. Still he talked in a good pace, took small breaks during the presentation, were not dependent on notes and managed his hand gestures and movement around on the “stage” in a good way.

The presentation had a simple look, was well organized with a good overview in the start and with a clear structure. The visual aids in the presentation were surprisingly good with videos, animations, snapshots from 3D models, drawings and graphs. During the presentation there was a period where many formulas were described which was more difficult to follow. Mainly because of my lack of background knowledge I assume. As soon as he finished this part of the presentation, he started showing snapshots from the visualisation of the numerical modelling, and suddenly gained my interest and made me understand what he just explained by formulas. Further on, the different methods were described and the time consumption using the different methods was graphically presented. This visual aid really helped proving the point why the PFEM model was the preferred method.

Even though the slides in general were good, there was some slides where he used too much text. He tried to guide the audience through this part, but it would have been much easier if he used bullet points with short sentences. Another negative aspect with his presentation was that some of the text was too small to read.

To summarize, the presentation was in general good. Especially were the visual aids like videos, pictures and animation something that really caught my attention and guided me through this presentation, even though he himself was kind of marginalized by the same visual tools. The speaker knew what he was talking about and didn't need any kind of notes. He gave the audience a possibility to think for some seconds along the way when he took small breaks in his speaking, and this made the presentation less tiring. Mainly a well performed presentation.