

Labwork MMT/MB/WING: Experimental and simulative investigations of turning a steel material

Mechanical Engineering (Module MB-9701 Fachlabor Maschinenbau): Master event in the summer semester

M.Sc. Manufacturing Technology (MMT-3 Laboratory Work): Master event in the summer semester

M.Sc. Industrial Engineering (Modul MB-9703: Fachlabor Wirtschaftsing.): Master event in the summer semester

As part of the lab, the machining of steel material is investigated. In this context, the students have the opportunity to

... gain experience in the use of a machine tool

... improve process understanding by taking an external longitudinal turning process as an example

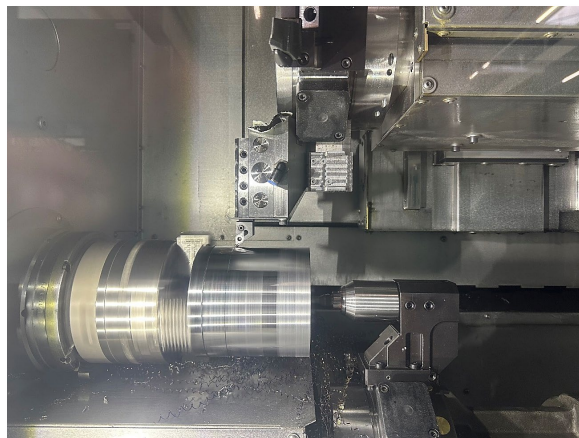
... gain knowledge to identify causes of processing errors

In the presence part, the turning experiments are conducted with variation of cutting speed, feed rate and depth of cut. In the second section, which is carried out digitally, the insert is varied. In the third part, the machining process is modelled in the software environment DEFORM 2, allowing the students to gain practical experience in the finite element (FE) based chip formation simulation.

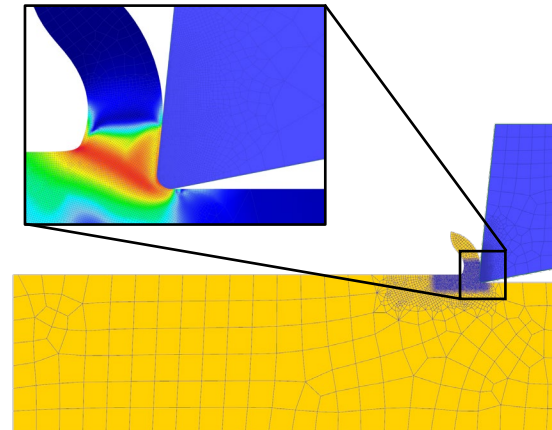
Machining tool Index ABC65



Experimental setup



Chip formation simulation



**Prof. Dr.-Ing. Prof. h.c.
Dirk Biermann**

Head of Institute, lecturer



Maxim Kolmanovskyi M.Sc.

Labwork assistance



Gero Polus M.Sc.

Labwork assistance