CMCs play an important role in two main application fields. Automotive ceramic brakes, which are in service since 2000 represent the biggest volume with more than 3000 mt produced in 2016. The next generation of aircraft turbine components will also use CMCs to increase efficiency. Further applications are found in the chemical industry and in safety systems.

Production processes are still on prototype level and not developed and optimized. One important role in the production value chain plays the final machining of the components. Hereby it is essential to know, how the process works and which effects are expected regarding surface quality, damage phenomena and tolerances. In the presented work some of these effects which occur during mechanical machining are described and quantified. The work shows, that machining parameters influence surface roughness of CMCs. In contrast to isotropic materials CMCs have an anisotropic structure comprising hard phases, soft phases and pores. This structure makes machining be a special challenge. In the picture below, a drilled CMC plate is shown, with edges chipped from the surface.

Figure 1 – CMC-plate with drill hole and chipped edges