Zirconium dioxide is used in various areas of equipment. It is new material for electronic equipment, dielectric and piezoelectric ceramic, solid electrolyte, fuel elements and heat insulator. A variety of applications for ZrO$_2$ is caused by a unique combination of its thermal, optical, electric and other properties.

The prosthetics of teeth is dynamically developing medicine area. The market of dental structures which are based on zirconium dioxide grows every year. Nowadays the computer system of laser scanning a tooth imprint shot by the doctor is used to create a 3D-model. Further, this model is used to create individual dental crowns or dental bridge structures from partially stabilized zirconium dioxide.

Manufacturing constructions is carried out using a device with CAD/CAM-systems by mechanically milling. For milling of ceramic blocks diamond cutters are required. Process of mechanically milling is very expensive and demands a lot of time, due to big wear resistance of ZrO$_2$. Moreover the production of dental structures with thickness of walls less than 400 $\mu$m is impossible, and by mechanical milling the formation of micro cracks in the material structure is possible.

In this work we propose an alternative laser technology precision milling of dental structures made of zirconium dioxide. Possibility of decrease in a consumption of material on production of zirconium designs, increase of speed of processing of preparation, increase in accuracy of processing and decrease to an optimum of the minimum thickness of ceramic designs is consider.