



News Review

Researchers Print Optical Components

Complex glass components and glass fibres could come in future from 3-D printer as input in cost-effective sensors, telecommunication components and biomedical equipment. Canadian researchers of the University Laval have manufactured for the first time chalcogenid glass elements with a 3-D printer and their results have been published in technical magazine optical materials express. The special glass is used for optical components which operate in the region of medium infrared rays. The research team raised the temperature of a commercial synthetic material 3-D printer about 330° Centigrade and could consequently manufacture chalcogenid glass probes with complex forms and measurements. Such components can be put in

the infrared heat generating technique however also in the area of inspection of damaged stuff or biomedicine as per also in other applications in which there is chemical infrared characteristic of molecular relevance. The researchers work now on the raising of the performance of the printer and to add one extruder for polymer in order to manufacture multi-material component. Perspective other glass positions should land in printer. Our disposition is very good for soft chalko genid glass suitable, however also the alternative arrangements for the printing of other glass positions are investigated”, says Yannick Ledemi, member of the research team.

(A photograph is printed in back cover.)

Source: VDI nachrichten, 7, June 2019, Seite 29

Manufacture of New Tooth

The manufacture of dental components like bridges, crowns or of artificial limbs are expensive and time consuming. With the manual variants the dental technicians produce the component parts in casting method. He uses digital method, constructs a 3-D model in computer and finishes it linked with the milling machine. As against both the methods the 3-D printing distinctly quicker. As a unique arrangement in small format, the TruPrint 1000 works with multilaser principle – says the manufacturer Trumpf. With that the dental products simultaneously build up two laser beams. After the 3-D model is installed set up finishes the component parts on a platform. These are finely polished by the milling machine. The set up builds minimum 30 teeth in fewer three hours on a platform and with

this about ten times quicker than the original methods. The small format wise 3-D printer gets moreover in future digitally connected with the milling machine. The undertaking looks forward to this important step for automated series manufacturing. The innovation renders it possible to print over it the implanted dental substitute; which not only substitute the tooth but also the root.

(A photograph is printed in back cover.)

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