

Annotations of Doctoral Thesis Topics for Degree Course „Nanotechnology and Advanced Materials“

Topic: Polymers containing highly dispersed phase
Tutor: prof. Ing. Berenika Hausnerová, Ph.D.
Consultant: prof. Dr. Bernhard Möginger
E-mail: hausnerova@utb.cz

Annotation:

The work will address polymers containing a dispersed phase with dimensions on the micrometer scale with focus on the implementation of their interface adhesion on nano-level into the models describing viscoelastic creep and stress strain behavior.

Requirements:

Knowledge of general and macromolecular chemistry and physics at the university level. Good knowledge of the English language. Basic manual and laboratory work skills. Ability to work independently.

Literature:

1. HAENEL, Thomas; HAUSNEROVÁ, Berenika; STEINHAUS, Johannes; MOEGINGER, Ing Bernhard. Qualitative Beam Profiling of Light Curing Units for Resin Based Composites. The European Journal of Prosthodontics and Restorative Dentistry. 2016, vol. 24, no. 4 s. 197-202. ISSN:0965-7452.
2. STEINHAUS, Johannes|Hausnerova, Berenika|Haenel, Thomas|Selig, Daniela|Duvenbeck, Fabian|Moeginger, Bernhard. Correlation of Shear and Dielectric Ion Viscosity of Dental Resins – Influence of Composition, Temperature and Filler Content. Dental Materials. 2016, vol. 32, no. 7 s. 899-907. ISSN:0109-5641.
3. Böhm H.J. (2004) Modeling the Mechanical Behavior of Short Fiber Reinforced Composites. In: Böhm H.J. (eds) Mechanics of Microstructured Materials. International Centre for Mechanical Sciences (Courses and Lectures), 464. Springer, Vienna.
4. Altenbach H. (2005) Modelling of anisotropic behavior in fiber and particle reinforced composites. In: Sadowski T. (eds) Multiscale Modelling of Damage and Fracture Processes in Composite Materials. CISM International Centre for Mechanical Sciences (Courses and Lectures), vol 474. Springer, Vienna.
5. Price C.D., Hine P.J., Whiteside B., Cunha A.M., Ward I.M. (2006) Modelling the elastic and thermoelastic properties of short fibre composites with anisotropic phases. Comp Sci & Tech 66, 1, 69-79.