



## Optimization of Particle Synthesis : New Mathematical Concepts for a Controlled Production of Functional Nanoparticles

By Michael Gröschel

FAU University Press Jan 2014, 2014. Taschenbuch. Condition: Neu. Neuware - Embedded in an interdisciplinary research project, the present work investigates the modeling, simulation, and optimization of specific processes for the production of functional nanoparticles. The examined material systems represent a selection of important core building blocks for future nanotechnologies. Depending on the application, a well-defined particle size distribution of the final product is required. The involved mechanisms (e.g. reaction, growth, ripening, and agglomeration) are described in the modeling by a hyperbolic partial integro-differential equation coupled to one or more ordinary differential equations. The successful validation against experimental data combined with the techniques of optimal control theory thereby allow for a targeted manipulation of the underlying processes. The developed methods establish in many cases for the first time a systematic approach for the production of tailor-made nanoparticles. 211 pp. Englisch.

DOWNLOAD



READ ONLINE

[ 2.35 MB ]

### Reviews

*This publication is very gripping and interesting. We have go through and so i am confident that i am going to planning to read through yet again again in the foreseeable future. You are going to like how the blogger write this ebook.*

-- **Dr. Thaddeus Turner PhD**

*This pdf can be worthy of a read through, and superior to other. It generally does not expense excessive. Its been printed in an exceptionally simple way and it is just soon after i finished reading this ebook in which in fact modified me, change the way i really believe.*

-- **Mr. August Hermiston PhD**