

Contents

1 Introduction	1
Rolf Wester	
2 The Behavior of Electromagnetic Radiation at Interfaces	5
Rolf Wester	
3 Absorption of Laser Radiation	15
Rolf Wester	
4 Energy Transport and Heat Conduction	43
Rolf Wester	
5 Thermomechanics	63
Rolf Wester	
6 Phase Transformations	69
Rolf Wester	
7 Melt Flow	77
Rolf Wester	
8 Laser-Induced Vaporization	93
Rolf Wester	
9 Plasma Physics	113
Rolf Wester	
10 Laser Beam Sources	155
Torsten Mans and Konstantin Boucke	

11 Surface Treatment	173
Konrad Wissenbach, Andreas Weisheit, Edgar Willenborg, Andre Temmler, Andreas Weisheit, Gerhard Backes, Andres Gasser, and Jens Gottmann	
12 Forming	241
Alexander Olowinsky	
13 Rapid Prototyping and Rapid Tooling	253
Christoph Over and Wilhelm Meiners	
14 Joining	265
Norbert Wolf, Dirk Petring, A.L. Boglea, Andreas Roesner, Ulrich Andreas Russek, Fahri Sari, Luedger Bosse, Felix Schmitt, Kilian Klages, and Alexander Olowinsky	
15 Ablation	343
Arnold Gillner, Alexander Horn, and Carsten Johnigk	
16 Drilling	365
Kurt Walther, Mihael Brajdic, and Welf Wawers	
17 Cutting	395
B. Seme, Frank Schneider, and Arnold Gillner	
18 System Technology	427
Kerstin Kowalick, Stefan Kaierle, Boris Regaard, and Oliver Steffens	
19 Laser Measurement Technology	473
André Lamott, Reinhard Noll, Csaba Farkas, Christoph Janzen, Tilman Schwendt, Tobias Kuhlen, and Ümit Aydin	
A Optics	537
B Continuum Mechanics	547
C Laser-Induced Vaporization	575
D Plasma Physics	579

E	Glossary of Symbols and Constants	585
F	Übersetzung der Bildbeschriftungen	595
Index		603



<http://www.springer.com/978-3-642-01236-5>

Tailored Light 2
Laser Application Technology
Poprawe, R. (Ed.)
2011, XVI, 605 p., Hardcover
ISBN: 978-3-642-01236-5