

Preface

Stereolithography is one of the most popular Additive Manufacturing processes, involving the solidification of a liquid photosensitive polymer by a laser beam scanned across its surface.

The use of stereolithography is still in its infancy. Much of the technology and operating procedures are based on empirical correlations and work experience, and very little is known about the physical and chemical changes occurring in the material due to light irradiation. A good understanding of the curing process is an important factor to improve the precision and quality of the models, as well as to develop well-adapted polymeric systems.

This book provides the current state of the art on stereolithographic processes covering aspects related to the most recent advances in the field, in terms of fabrication processes (two-photon polymerisation, micro-stereolithography, infra-red stereolithography and stereo-thermal-lithography), materials (novel resins, hydrogels for medical applications and highly reinforced resins with ceramics and metals), computer simulation and applications.

I am deeply grateful to all the contributing authors.

Leiria, Portugal

Paulo Jorge Bártolo



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