

## **Laser diode beam basics, manipulations and characterizations**

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### **Abstrak**

This book offers the reader a practical guide to the control and characterization of laser diode beams. Following a short introduction to the working principles of laser diodes, the book describes the basics of laser diode beams and beam propagation, including Zemax modeling of a Gaussian beam propagating through a lens. The core of the book is concerned with laser diode beam manipulations, collimating and focusing, circularization and astigmatism correction, coupling into a single mode optical fiber, diffractive optics and beam shaping, and manipulation of multi transverse mode beams. The final chapter of the book covers beam characterization methods, describing the measurement of spatial and spectral properties, including wavelength and linewidth measurement techniques.