

Maksim Skorobogatiy and Jianke Yang

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Photonic Crystal Guiding

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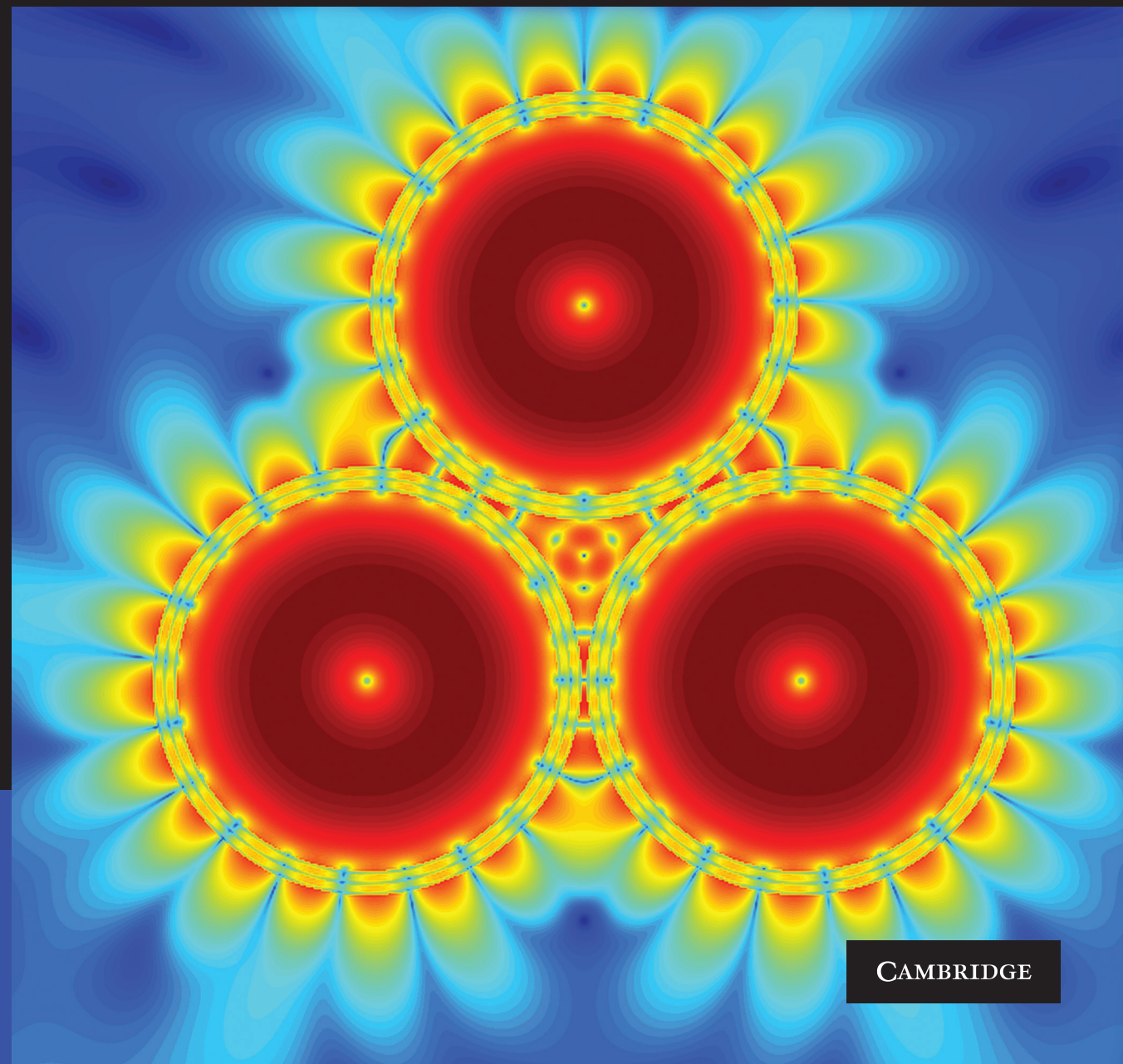
IF YOU'RE LOOKING TO UNDERSTAND PHOTONIC CRYSTALS, this systematic, rigorous, and pedagogical introduction is a must. Here you'll find intuitive analytical and semi-analytical models applied to complex and practically relevant photonic crystal structures. You will also be shown how to use various analytical methods borrowed from quantum mechanics, such as perturbation theory, asymptotic analysis, and group theory, to investigate many of the limiting properties of photonic crystals which are otherwise difficult to rationalize using only numerical simulations.

An introductory review of nonlinear guiding in photonic lattices is also presented, as are the fabrication and application of photonic crystals. In addition, end-of-chapter exercise problems with detailed analytical and numerical solutions allow you to monitor your understanding of the material presented. This accessible text is ideal for researchers and graduate students studying photonic crystals in departments of electrical engineering, physics, applied physics, and mathematics.

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