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Titolo	Quantum States of Light / / by Akira Furusawa
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Descrizione fisica	1 online resource (110 p.)
Collana	SpringerBriefs in Mathematical Physics, , 2197-1757 ; ; 10
Disciplina	535
Soggetti	Mathematical physics Quantum optics Quantum computers Spintronics Mathematical Physics Quantum Optics Quantum Information Technology, Spintronics Quantum Computing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. Quantum states of light -- 1-1 Quantum optics -- 1-2 Coherent states -- 1-3 Balanced homodyne measurements -- 1-4 Single-photon state -- 1-5 Fock states -- 1-6 Super position of a vacuum and a single photon -- 1-7 Coherent states and Schrodinger's cat states -- 1-8 Wigner function -- 1-9 Super position of a vacuum and a two-photon state -- 1-10 Squeezed states -- 1-11 Squeezing operation -- 1-12 Quantum entanglement -- 2. Generation of quantum states of light -- 2-1 Generation of coherent states -- 2-2 Generation of squeezed states -- 2-3 Generation of a single-photon state -- 2-4 Generation of Schrodinger's cat states -- 2-5 Generation of superposition of Fock states -- 2-6 Generation of quantum entanglement -- 3. Quantum operations for quantum states of light -- 3-1 Various quantum operations -- 3-2 Quantum teleportation -- 3-3 Quantum gate teleportation.
Sommario/riassunto	This book explains what quantum states of light look like. Of special interest, a single photon state is explained by using a wave picture,

showing that it corresponds to the complementarity of a quantum. Also explained is how light waves are created by photons, again corresponding to the complementarity of a quantum. The author shows how an optical wave is created by superposition of a "vacuum" and a single photon as a typical example. Moreover, squeezed states of light are explained as "longitudinal" waves of light and Schrödinger's cat states as macroscopic superposition states.