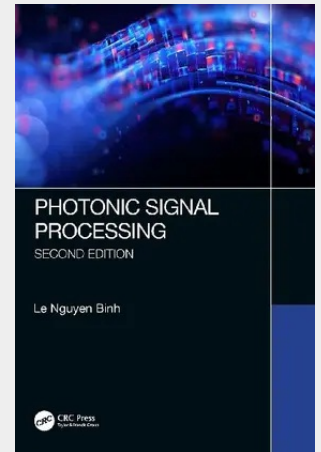


Photonic Signal Processing, Second Edition

This Second Edition of "Photonic Signal Processing" updates most recent R&D on processing techniques of signals in photonic domain from the fundamentals given in its first edition. Several modern techniques in Photonic Signal Processing (PSP) are described: - Graphical signal flow technique to simplify the analysis of the photonic transfer functions, plus its insights into the physical phenomena of such processors. The resonance and interference of optical fields are presented by the poles and zeros of the optical circuits, respectively. - Detailed design procedures for fixed and tunable optical filters. These filters, "brick-wall-like", now play a highly important role in ultra-broadband (100GBaud) to spectral shaping of sinc temporal response so as to generate truly Nyquist sampler of the received eye diagrams - 3-D PSP allows multi-dimensional processing for highly complex optical signals - Photonic differentiators and integrators for dark soliton generations. - Optical dispersion compensating processors for ultra-long haul optical transmission systems. - Some optical devices essentials for PSP. - Many detailed PSP techniques are given in the chapters of this Second Edition.

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