

This paper reviews the history of research and development related to coherent optical communications and describes the principle of coherent detection, including its quantum-noise ...

This paper reviews the history of coherent optical communications, the principle of coherent receivers, quantum-mechanical characteristics of coherent detection, multi-level modulation formats, and the ...

This textbook details the architecture of coherent optical systems while covering the main digital signal processing algorithms and advanced modulation.

In this paper, we provide an overview of recent progress on advanced digital signal processing (DSP) techniques for high-capacity long-haul coherent optical fiber transmission systems.

EFFECT Photonics, with its focus on integrating advanced technologies like DSPs and tunable lasers into compact, efficient transceivers, strongly believes in making coherent optics more accessible and ...

We discuss both single- and multi-carrier system implementations. For a given modulation format, using coherent detection, they offer fundamentally the same spectral efficiency and power efficiency, but ...

With its ability to support exponential growth in data transmission across distance over the past 15+ years, coherent optical technology, or coherent optics, is a key contributor to today's modern ...

Learn about coherent optics, the associated applications, and how they help deliver more data over the same fiber format. Coherent optics are typically used for ultra-high bandwidth applications ranging ...

Outputs from the homodyne phase/polarization diversity receiver are processed by digital signal processing (DSP) circuits, restoring the complex amplitude of the signal in a stable manner despite of ...

As the industry continues to grow, coherent optics has emerged as a key enabling technology. This paper explores the basics of coherent optics, highlights recent advancements in the field, and discusses the ...

3.4 Coherent detection  
3.4.2 Dual-polarization downconverter  
4. Modulation formats  
E E t t s s ( ( ) ) 8.  
Conclusions  
We have reviewed the principles of coherent detection in optical communications, and described digital techniques for compensating channel impairments. Two types of channel impairments were identified: linear and nonlinear. Linear channel impairments include CD, PMD and optical filtering by network components. When the outputs of a dual-polarization receiver are processed by digital signal processing (DSP) circuits, restoring the complex amplitude of the signal in a stable manner despite of channel impairments. See more on [ee.stanford.edu/~kshum/](http://ee.stanford.edu/~kshum/).  
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What is coherent optics? - CienaWith its ability to support exponential growth in data transmission across
distance over the past 15+ years, coherent optical technology, or coherent optics, is a key ...
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