

Frequency and temperature control for complex system engineering in optics and electronics
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Abstract:

To take advantage of the physical principles of determining parameters such as frequency stability, noise but also alignment of optical signals, it is necessary to control complex systems. This work allows to explain it through various concrete cases such as the determination of phase noise of microwave oscillators [1 - 5], the control of the temperature of the manufacturing process of optical components [6 - 11] or instrumentation involving Brillouin scattering stimulation [12]. We also discuss the estimation of the uncertainty associated with the measurement results, as it is fundamental to control the error range [13, 14].

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