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2.4.2 Kilowatt-Scale Coherent Beam Combining of Photonic Crystal Fiber Amplifiers2.5 Conclusion; References; 3 Kilowatt Coherent Beam Combining of High-Power Fiber Amplifiers Using Single-Frequency Dithering Techniques; 3.1 Introduction; 3.1.1 Brief History of Coherent Beam Combining; 3.1.2 Coherent Beam Combining: State of the Art; 3.1.3 Key Technologies for Coherent Beam Combining; 3.2 Single-Frequency Dithering Technique; 3.2.1 Theory of Single-Frequency Dithering Technique; 3.2.2 Kilowatt Coherent Beam Combining of High-Power Fiber Amplifiers Using Single- Frequency Dithering Technique
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4.1 Introduction to Hill Climbing Control Algorithms for Active Phase Control

Sommario/riassunto

Recently, the improvement of diode pumping in solid state lasers and the development of double clad fiber lasers have allowed to maintain excellent laser beam quality with single mode fibers. However, the fiber output power if often limited below a power damage threshold. Coherent laser beam combining (CLBC) brings a solution to these limitations by identifying the most efficient architectures and allowing for excellent spectral and spatial quality. This knowledge will become critical for the design of the next generation high-power lasers and is of major interest to many industrial, environme