

Abstracts

A new approach for optical millimeter wave generation utilizing locking techniques

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A new approach is presented for the optical generation of millimeter waves. Instead of the millimeter wave signal, one of its subharmonics is optically transmitted and the millimeter wave signal is generated utilizing the subharmonic signal as a reference. This way the optical components become much simpler and cheaper. In this procedure a crucial point is the frequency division at millimeter wave frequencies. For this purpose a new method is introduced: the superharmonic injection locking of oscillators. The main advantage of the new approach is that it is applicable even for frequencies at shorter millimeter waves.

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