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(57) Abstract :
The present disclosure relates to a travelling wave antenna for 5G applications. The system (100) is provided a housing (102) where a first flared conductor (104), a second flared conductor (106), and a substrate (108) are configured. The substrate is positioned between the first flared conductor (104), and the second flared conductor (106) to produce a radiation pattern during electromagnetic radiation. Additionally, the first flared conductor (104) flares as an aperiodic continuously scaled antenna structure having unlimited instantaneous bandwidth to transmit, and receive electromagnetic radiation. Moreover, the second flared conductor (106) flares as an aperiodic continuously scaled antenna structure having unlimited instantaneous bandwidth in a direction opposite to the first flared conductor to transmit, and receive electromagnetic radiation. A metal director 110) is configured to improve the field coupling between the first flared conductor (104), and the second flared conductor (106) leading to an increased radiation efficiency.

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