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Structurally stable singular wavefields

Laguerre-Gaussian functions are well-known solutions of 2D harmonic oscillator equation. The modulus structure of a LG function that has the only zero of order m is simple: it looks like a light ring (or a light spot in case $m = 0$) on the black background. A generalization of these functions is proposed, namely, for any closed curve on the plane there exists a function family depending on a pair of integer-valued parameters, any member of which is structurally stable solution of the Schrodinger equation. In particular, when the curve is a circumference the whole set of LG functions is obtained.