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Squeezed states and Hermite Polynomials in a Complex Variable

Abstract

I will construct coherent states, related to the Hermite polynomials in a complex variable which are orthogonal with respect to a non-rotationally invariant measure. Then, I will investigate relations between these coherent states and obtain the relationship between them and the squeezed states of quantum optics. I will also obtain a second realization of the canonical coherent states in the Bargmann space of analytic functions, in terms of a squeezed basis. All this is done in the flavor of the classical approach of V. Bargmann [Comm. Pure Appl. Math. 14 (1961) 187].

Serdecznie zapraszamy,

E. Czuchry, E. Infeld, W. Piechocki, A. Pollo