Polarized Vector Bosons on the de Sitter Expanding Universe

Ion I. Cotăescu
West University of Timişoara,
V. Parvan Ave. 4 RO-300223 Timişoara, Romania

Abstract

The quantum theory of the vector field minimally coupled to the gravity of the de Sitter space-time is built in a canonical manner starting with a new complete set of quantum modes of given momentum and helicity derived in the moving chart of conformal time. It is shown that the canonical quantization leads to new vector propagators which satisfy similar equations as the propagators derived by Tsamis and Woodard [*J.Math.Phys.* **48** (2007) 052306] but having a different structure.

Pacs: 04.62.+v

Keywords: vector field; de Sitter spacetime; canonical quantization; propagators; one-particle operators.