

of Physicists

Canadian Association Association canadienne des physiciens et physiciennes

Contribution ID: 1856

Type: Invited Speaker / Conférencier invité

Causal perturbation theory in quantum optics

Tuesday 30 May 2017 13:30 (30 minutes)

It is a well-known fact that quantum field theory usually requires renormalization to deal with divergent terms in perturbation theory. For relativistic quantum systems, Epstein and Glaser have proposed causal perturbation theory (CPT) as a method to avoid divergences before they occur. The key part of this method is to employ distribution splitting to define retarded and advanced propagators. In this talk I will describe how CPT can be used to provide a finite perturbation theory for quantum optical systems consisting of atoms or molecules and light.

Presenter: MARZLIN, Karl-Peter (St. Francis Xavier University)

Session Classification: T3-4 Mathematical Physics (DTP) | Physique mathématique (DPT)

Track Classification: Theoretical Physics / Physique théorique (DTP-DPT)