

Functional integrals and inequivalent representations

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Canonical transformations are a cumbersome and interesting subject in quantum field theory because of the existence of unitarily inequivalent representations of canonical commutation relations. When one works with the functional integral formalism, it is not clear, in principle, how this feature can come out. Following an early approach by M. Swanson dealing with canonical transformations in phase space path integral, we treat the subject using coherent states functional integrals leading to a simplified formalism which makes more transparent the appearance of the inequivalent representations.