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On construction of coherent states associated with homogeneous spaces

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Abstract: In this article, assume that $G = H \times_\tau K$ is the semidirect product of two locally compact groups H and K, respectively and consider the quasi regular representation on G. Then for some closed subgroups of G we investigate an admissible condition to generate the Gilmore-Perelomov coherent states. The construction yields a wide variety of coherent states, labelled by a homogeneous space of G.

Key Words: Locally compact abelian group, Semidirect product, Fourier transform, Square integrable representation, Coherent states