

Abstract

Given a semisimple real linear group, a zonal spherical function is matrix coefficient associated to the unique spherical vector with value 1 at identity element in a unitary spherical principal series, which are important object in representation theory and harmonic analysis. Each zonal function is a positive function. Hence, its Fourier transform along a maximal split torus is everywhere non-negative by a classical theorem of Bochner. In this talk we report a result in a recent joint work: the Fourier transform along a maximal split torus of any zonal spherical function takes positive value everywhere.