1037-22-213 **Gestur Olafsson*** (olafsson@math.lsu.edu), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803, and **Henrik Schlichtkrull**. *Paley-Wiener type theorem for K-finite functions on compact symmetric spaces.*

The Fourier coefficients of a function f on a compact symmetric space U/K are given by integration of f against matrix coefficients of irreducible representations of U. The coefficients depend on a spectral parameter which determines the representation. We define the Fourier transform so, that the Fourier transform takes value in a fixed Hilbert space H independent of the representation. We obtain a theorem of Paley-Wiener type which describes the size of the support of the function f by means of the exponential type of a holomorphic H-valued extension of the Fourier transform of f, provided f is K-finite and of sufficiently small support. This result extends our previous result for K-invariant functions. (Received February 03, 2008)