

Time-frequency analysis on compact groups

Ville Turunen¹

¹Department of Mathematics and Systems Analysis, Aalto University, ville.turunen@aalto.fi

Phase-space analysis or time-frequency analysis is a subfield of Fourier analysis. It is traditionally exercised in Euclidean spaces, presenting signals simultaneously both in time and in frequency. We introduce a natural family of time-frequency transforms for signals on any compact group. We also study the properties of the related pseudo-differential operators for signal processing.