

# 30 years of coda observations: $Q_c, Q_i$ and $Q_s$

## A summary of the main results obtained worldwide, in memory of Keiiti Aki.

Observations and analysis of coda waves of seismograms from short period seismic stations have grown from the early studies of Aki (1969) to a well developed field of seismology. Here I summarize in few plots the large amount of experimental work related to: a) the estimate of  $Q_c$ , or  $Q$ -coda or "Coda decay coefficient" and b) the separate estimate of intrinsic and scattering  $Q$  obtained from the analysis of coda wave envelopes. Results for a) are all obtained in the assumption of single scattering model using the so called Aki&Chouet approach. Results for b) are obtained in the assumption of multiple scattering using the so called MLTWA technique (Sato and Fehler, 1998). The interpretation related to these results provides insight into the complex wave propagation through the earth.

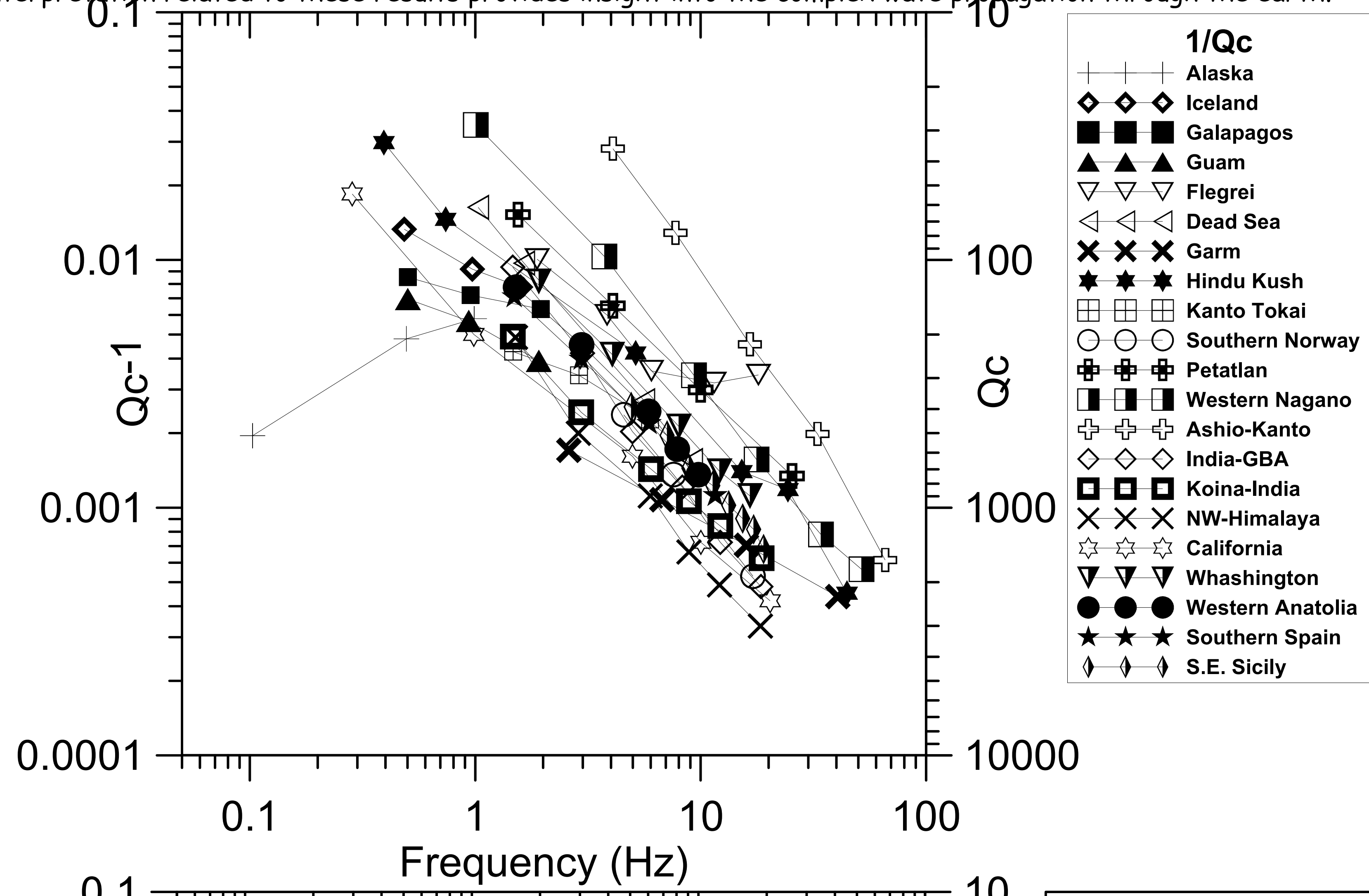


Fig. 1 -  $Q_c^{-1}$  obtained worldwide for different zones.

Despite the different lapse times, all the estimates span in a relatively narrow range. Interesting is the quite regular overall frequency pattern.

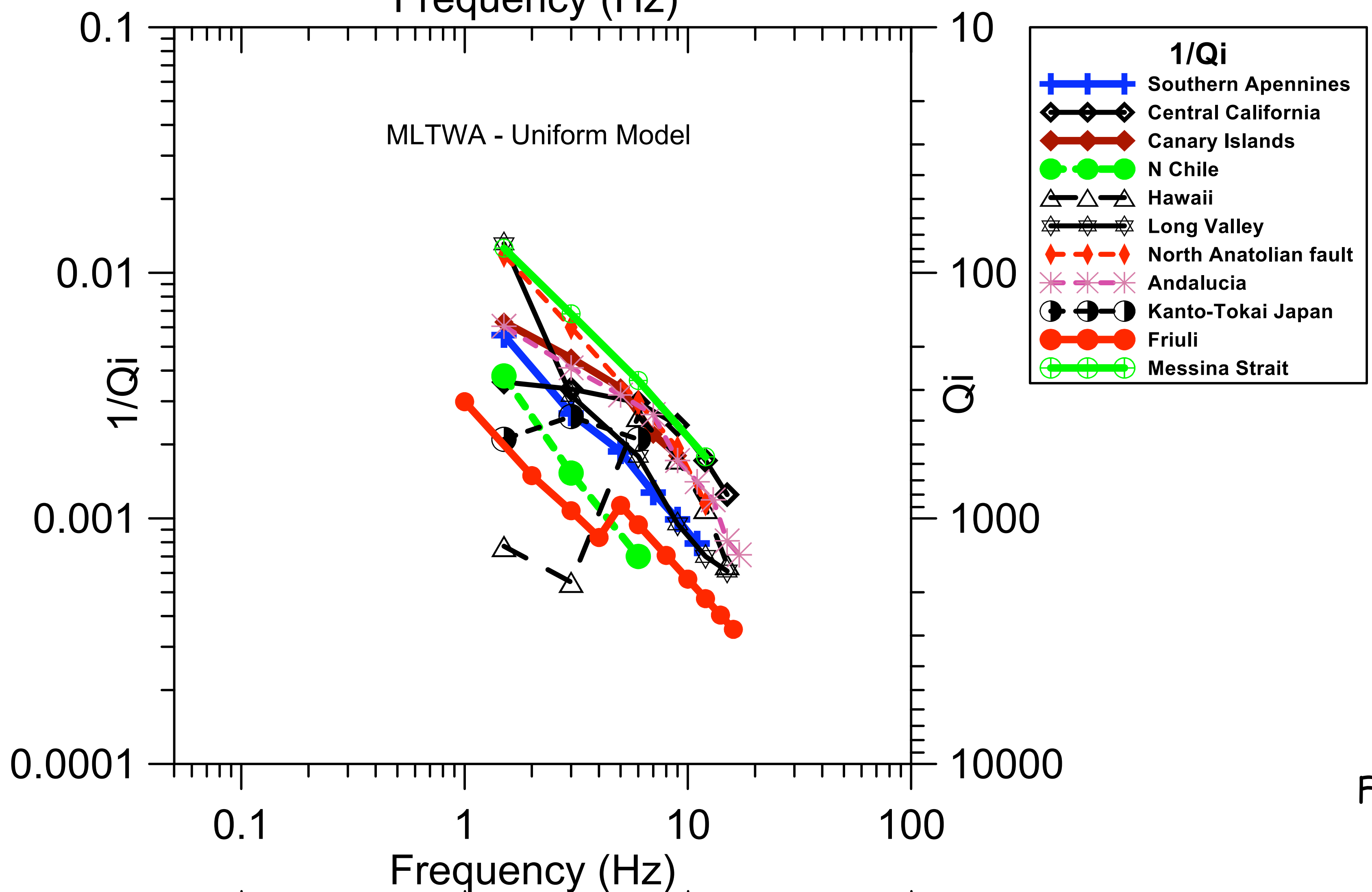


Fig. 2 -  $Q_s^{-1}$  e  $Q_i^{-1}$  obtained worldwide for different zones.

The method used is MLTWA.

