The present study was conducted to calculate energy parameters at the complex level and the potential energy footprints of specific processes (i.e. phylogeny, environmental mediation and emergent effects) at metacommunity level. The fundamental quantity used in the present study is based on Max Planck’s energy based entropy modified by László Öröci. A plant meta community data composed of 9 complexes taken between 1200 and 2000 meter from Gedikli district located in the transmission zone of the Mediterranean region was subject to quantum analysis.

According the results obtained from quantum analysis, the complex found in 1800 meter includes the highest potential energy footprint (nH) and instability % (E%) values. Calculations at meta community level showed that potential energy footprint of phylogeny overwhelms the effect of altitude in the nH terms. However this is turned in favor of altitudinal gradient when the H footprints are compared.

Key Words: Energy, entropy, phylogenetic tree, environmental factors, resonator