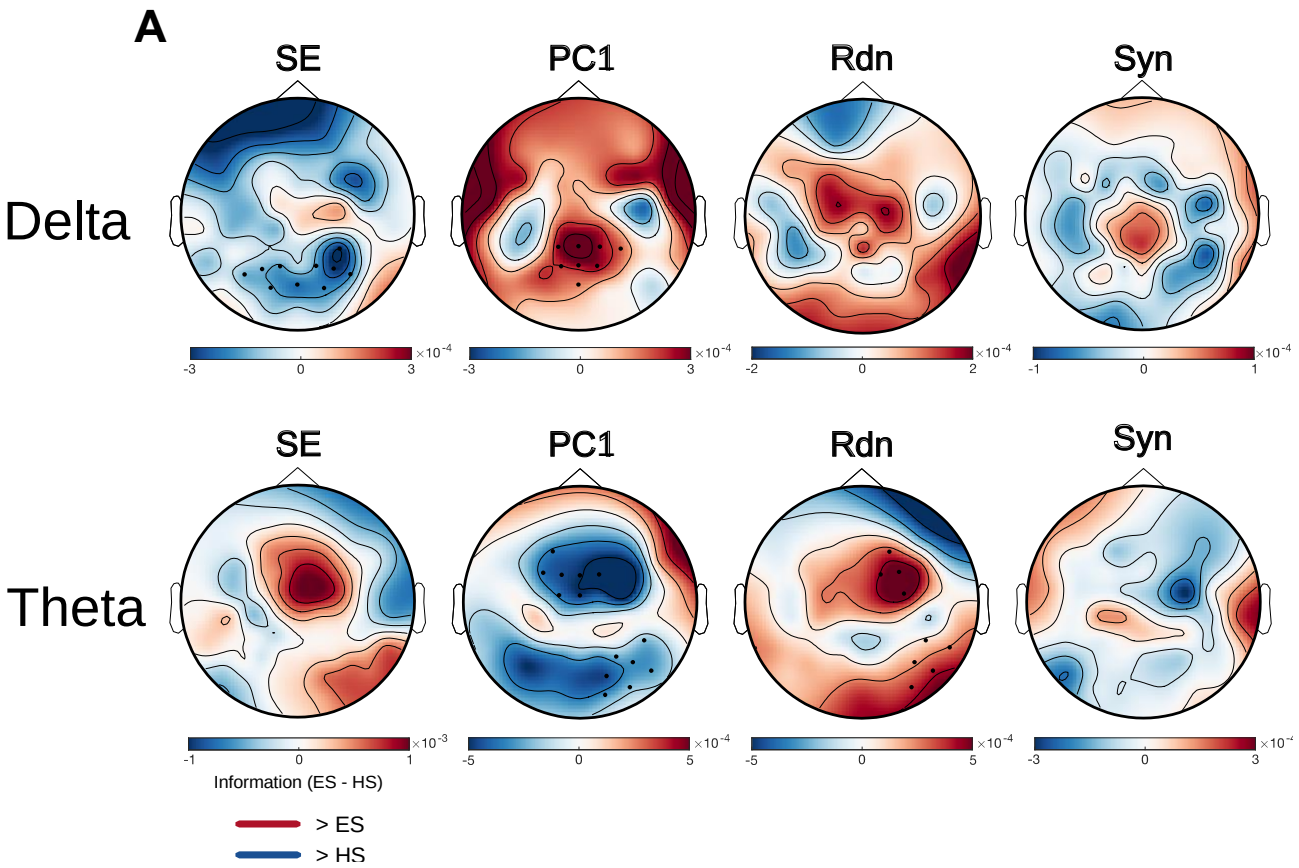

Figure S1. PID matched-length analysis. Hard stimuli (HS) concatenations were longer in all the subjects than easy stimuli (ES) ones. We repeated 1000 times the Partial Information Decomposition (PID) analysis on signals with matched lengths by cutting a segment of adjacent samples from the longer one, every time at a randomly selected point, to exclude that a possible bias in the PID algorithm depending on the length of the data could affect our results. We then computed the mean (across the 1000 repetitions) of each of the 4 outputs of the PID analysis for each subject and repeated the statistical test. Topographical distributions show the mean of the information difference across subjects (ES - HS) for the average unique (Unq(SE), Unq(PC1)), redundant (Rdn(SE,PC1)) and synergistic (Syn(SE, PC1)) atoms of information obtained for band-pass filtered data in the delta and theta bands. Black dots highlight the electrodes belonging to the clusters that survived two-tailed cluster-based statistics ES vs HS (alpha level = 0.05).