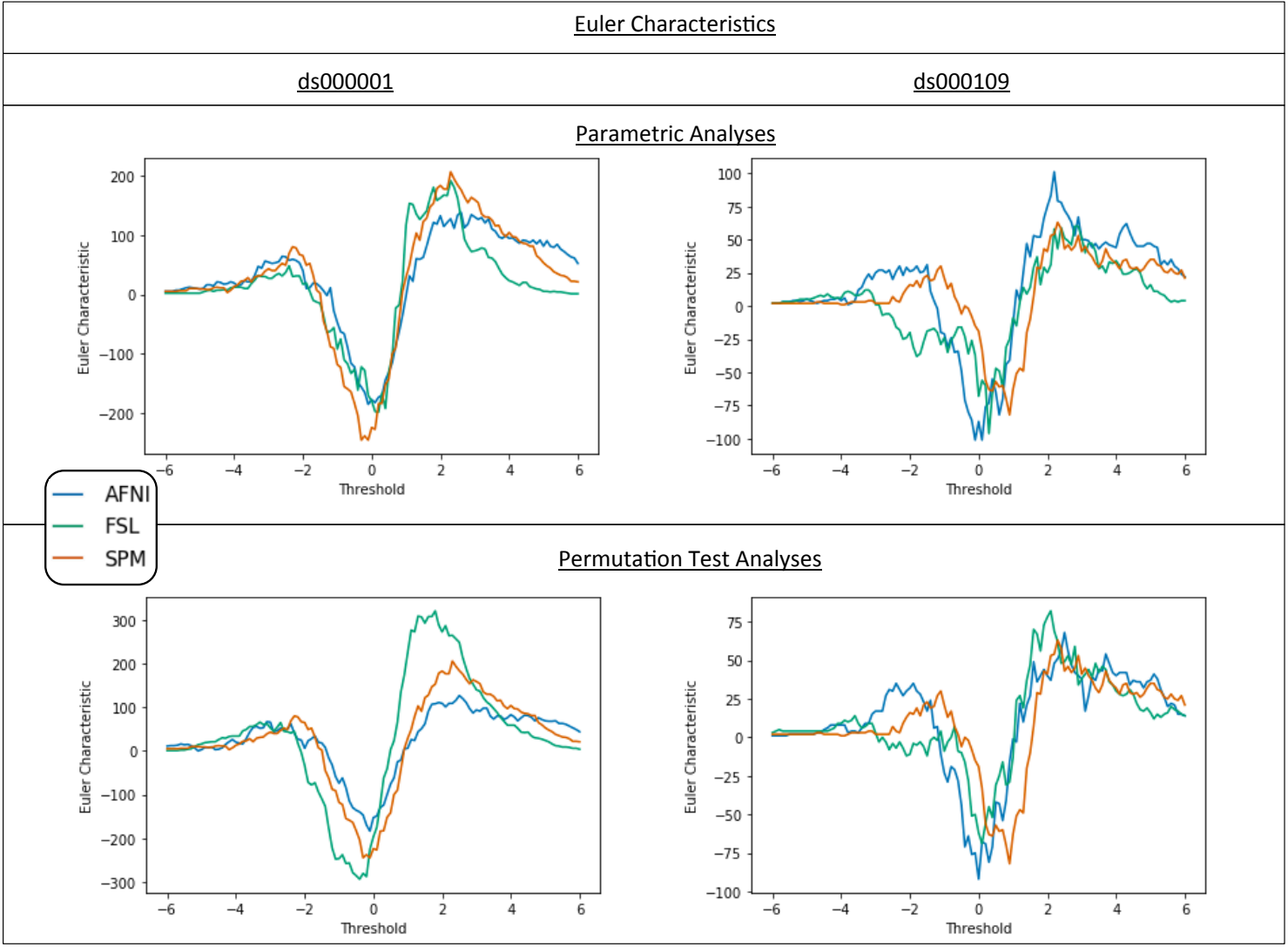

Figure 5

Euler Characteristic plots for ds000001 and ds000109. On top, comparisons of the Euler Characteristic computed for each software's T-statistic map from our reanalyses using a range of T-value thresholds between -6 and 6. Below, comparisons of the Euler Characteristics calculated using the same thresholds on the corresponding T-statistic images for permutation inference within each package. For each T-value the Euler Characteristic summarizes the topology of the thresholded image, and the curves provide a signature of the structure of the entire image. For extreme thresholds the Euler Characteristic counts the number of clusters, allowing a simple interpretation of the curves: for example, for ds000001 parametric analyses, FSL clearly has the fewest clusters for positive thresholds, while AFNI has the most clusters for large negative thresholds.