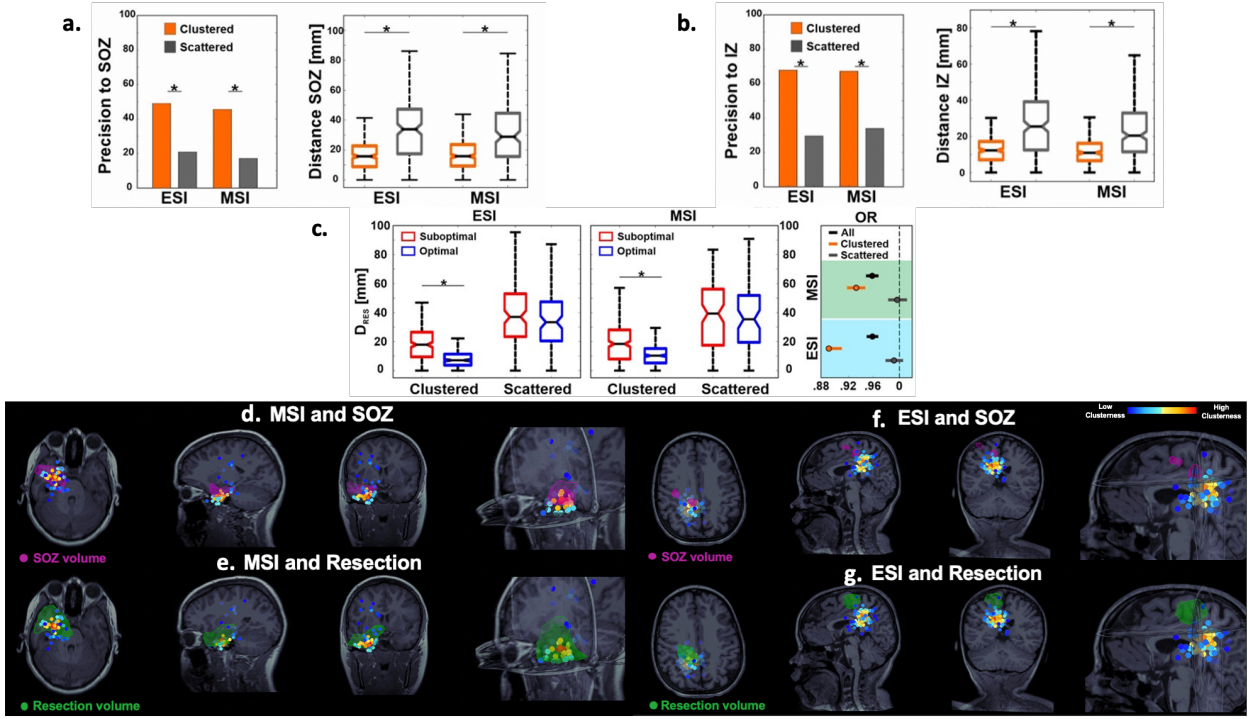

Fig. 2: Validation ESI and MSI against the ground truth given by the SOZ,IZ and surgical resection and comparison between a patient with good (d-e) and poor(f-e) outcome . (a.) Left: Precision to the SOZ for clustered (orange) and scattered (grey) dipoles for ESI and MSI. Right: Distance from the SOZ for clustered and scattered dipoles. Stars indicate significant differences (*p*-values <0.05). (b) Left: Precision to the IZ for clustered (orange) and scattered (grey) dipoles for ESI and MSI. Right: Distance from the IZ for clustered and scattered dipoles. Stars indicate significant differences (*p*-values <0.05). (c) Comparing the distance from resection (D_{RES}) between clustered and scattered dipoles in patients with optimal (blue) and suboptimal (red) surgical outcome for ESI (left) and MSI (middle). Logistic regression used to model the probability of good outcome based on D_{RES} of all the dipoles (black), clustered dipoles (grey) and scattered dipoles (orange) separately for ESI (cyan) and MSI (green). (d-e) In the optimal outcome patient, MSI dipoles with high clusterness show major overlapping with SOZ volume (d) and surgical resection (e). Dipoles with low clusterness (scattered) did not overlap with SOZ or resection. (f-g) In the suboptimal outcome patient, ESI dipoles with high clusterness did not overlap with SOZ volume (f) and surgical resection (g). Only a few dipoles with low clusterness overlapped with SOZ and resection. Each scenario shows the dipoles color coded based on their clusterness on the axial, sagittal and coronal MRI view. The SOZ is defined by the purple volume. The resection is defined by the green volume.