



Fig S2. Histogram associated with the values of the actual (left panel) and simulated (right panel) MV-patterns of the inferior temporal cortex (ITC) for one subject. As for the Monte Carlo approach, the simulated ITC patterns have been generated as $Y = (1 - \gamma)TX/\|TX\|_F + \gamma N/\|N\|_F$ where X denotes the EVC MV-pattern matrix for the subject, γ is a parameter representing the weight of the noise in the model (set as equal to 0.6 in this realisation), N is random noise and T is a simulated transformation (whose values follow a standard normal distribution).