- W : real network
- $w_{i,j}$: element of W, corresponded weight between node i and j
- $W^c = \{(i,j)|(i,j) \in W \; and \; w_{i,j} \geq c\}$
- $WP = \{WP_1, WP_2, \ldots, W_{100}\}$
- WP_k : k-th permutation network
- $wp(k)_{i,j}$: element of WP_k, corresponded weight between node i and j
- $WP_k^c = \{(i,j)|wp(k)_{i,j} \in WP_k \; and \; wp(k)_{i,j} \geq c\}$
- $E(X)$: number of edges in network X
- $C(X)$: number of component in network X
- $f(W, WP) = argmin_{c \in [0,1]} 0.5 * (\frac{\frac{1}{|WP|} * \sum_{k=1}^{|WP|} E(WP_k^c)}{E(W^c)} + \frac{\frac{1}{|WP|} * \sum_{k=1}^{|WP|} C(WP_k^c)}{C(W^c)})$