Supplementary

Appendix 1

Letter	Meaning
H, H_1	The hippocampal surface
$V(X,Y,Z)$	The coordinates on the hippocampal surface
$\{V_i, F_i\}$	The vertex matrix and face matrix of the i-th hippocampal surfaces
f_1	The first eigenfunction of H
λ_1	The first eigenvalue ($\lambda_1 > 0$)
f_{H_T}	The eigen-graph of H_T
$\widehat{f}_{H_T}$	The normalized eigen-graph of H_T
f_{H_1}	The eigen-graph of H_1
$\widehat{f}_{H_1}$	The normalized eigen-graph of H_1
$\widehat{f}^*_{H_1}$	The cumulative distribution function of H_1
$\widehat{f}^*_{H_T}$	The cumulative distribution function of H_T
$F_{H_1 H_T}$	The histogram matching function of H_1 to H_T
$\widehat{f}^{H_T}_{H_1}$	The calibrated eigen-graph of H_1
LO_i	The i-th eigen-loop of H
$\boldsymbol{s_1}$	The stand vector of H
$\boldsymbol{s_i}$	The vector in the i-th eigen-loop
γ_1	The landmark curve 1
γ_2	The landmark curve 2
$\tilde{\gamma}_1$	The celebrated landmark curve 1
$\tilde{\gamma}_2$	The celebrated landmark curve 2
m	The number of eigen-loops
v_{new}, w_{new}	Calibrated landmarks, with v_{new}, on $\tilde{\gamma}_1$ and w_{new} on $\tilde{\gamma}_2$
N, S	The North pole and the South pole
$\{V_i\}_{i=1}^n$	The landmarks of H_1
$\{W_i\}_{i=1}^n$	The landmarks of H_T
ρ	Projection parameters of North projection and South projection
α	A weight parameter
σ	A penalty parameter
μ, ν	The Beltrami coefficients
ξ	A very small real number
ζ	The threshold of the spatial angle

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