Regional flux analysis of longitudinal atrophy in Alzheimer's disease.
Supplementary Material.

Table 1: Sample size analysis. Estimated sample size (mean(95%CI)) to detect a 25% difference of the progression of the regional flux with 80% power when considering the group alone (columns 1 and 3), or by controlling for normal aging (columns 2 and 4). Last row: average sample size (average 95%CI) from the LDA analysis, when considering the score given by the combination of the regional flux. The standard formula is sample size= $(u+v)^2(2\sigma)^2/(\Delta\mu)^2$, with $u = 0.841$ (80% power), $v = 1.95$ (5% significance level), $\Delta\mu$ is the annualized percentage rate of atrophy, and σ is the standard deviation of the patients group.

	AD alone	AD (+CT)	MCI alone	MCI (+CT)
Expansions				
E1	122 (96,160)	1067 (515,3395)	78(66,93)	366(239,628)
E2	169 (128,232)	1532 (633,7765)	170(133,225)	1323(614,4682)
E3	111 (88,143)	730 (382,1906)	208(159,285)	1574(729,5597))
E4	179 (135,250)	5920 (1119,8811)	54(47,63)	307(193,567)
E5	119 (94,156)	15502(1833,18816)	151(120,197)	1358(652,4376)
E6	125 (99,166)	361 (239,610)	88(73,107)	475(299,870)
E7	121 (96,159)	948 (466,2886)	208(159,285)	475(299,871)
E9	104 (83,133)	317 (211,528)	166(130,220)	972(524,2391)
Contractions				
C1	95 (77,121)	4802 (1182,9850)	207(158,283)	1629(778,5317)
C2	50 (43,60)	1006 (481,3280)	112(91,140)	1033(561,2500))
C3	41 (36,48)	808 (386,2635)	143(114,184)	1758(805,6427)
C4	66 (55,80)	462 (284,880)	58(50,68)	347(234,564)
C5	38 (33,44)	203 (145,307)	60(51,70)	348(238,558)
C6	54 (46,64)	266 (180,431)	180(140,241))	1232(648,239)
LDA		164 (106,290)		277 (166,555)

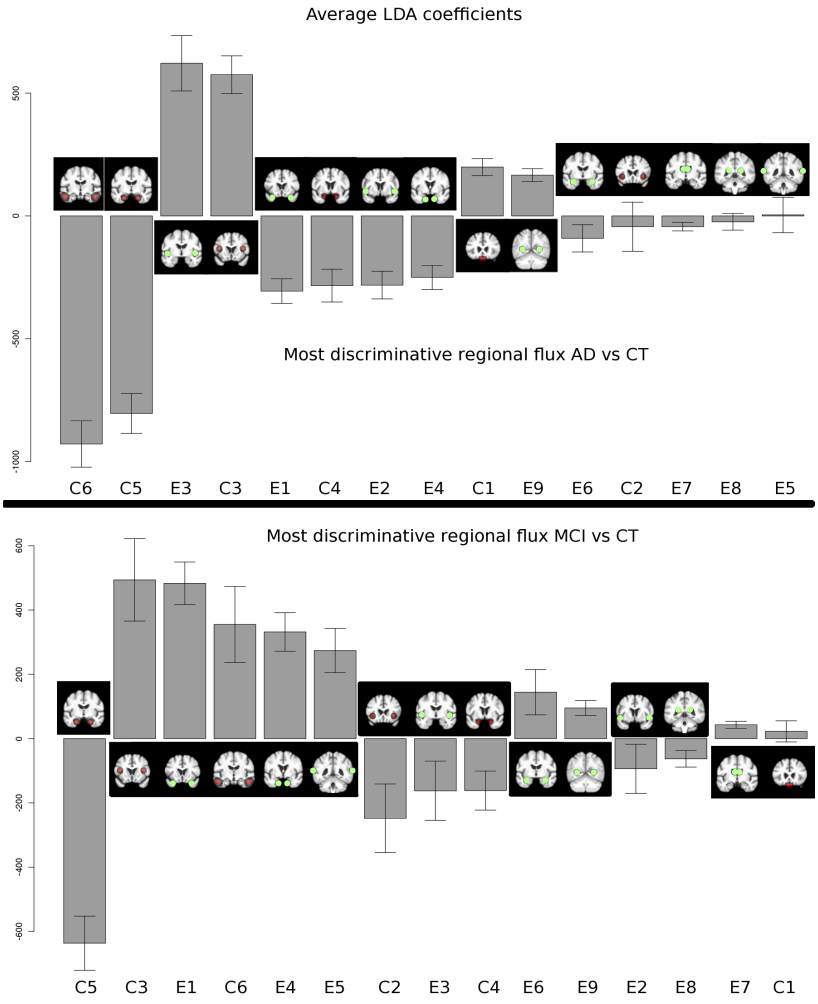

Figure 1: LDA coefficients associated to the critical regions for the longitudinal atrophy. Top: AD vs Controls. Bottom: MCI vs Controls.

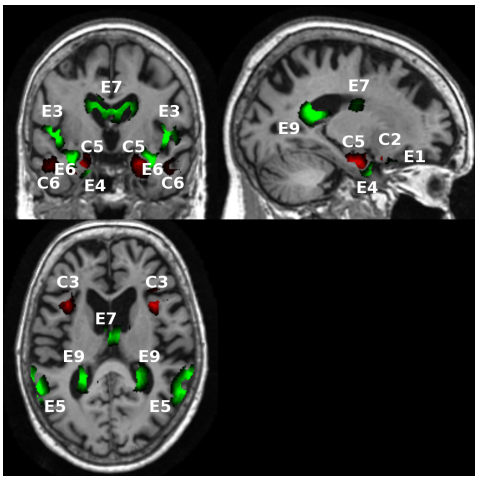

Figure 2: From group-wise to patient specific quantification. The figure shows the critical regions for the probabilistic integration of the flux estimated for a specific AD patients. Green areas: expanding critial regions. Red areas: contracting critical regions.