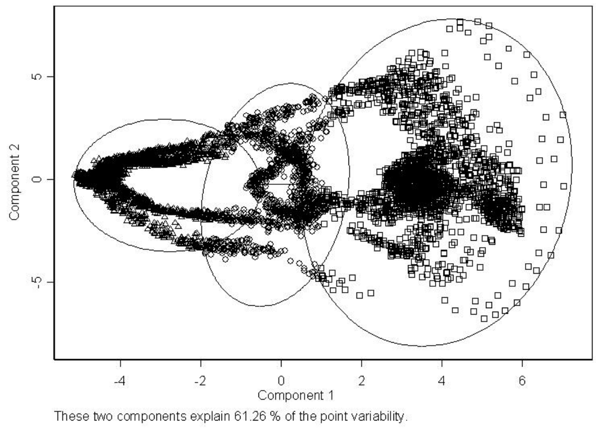

Figure 6: Attractor IV for options on market index S&P 100, τ_2 –2 month

Table 1: Statistical validity of implied volatility clusters

Number of valid clusters	IV options (S&P 500. τ_1 – 1 month) / **3**	IV options (S&P 500. τ_2–2 month)/ **2**	IV options (S&P 100. τ_1 – 1 month) / **3**
Partition Coefficient	0.6292	0.6792	0.6292
Classification Entropy	0.7052	0.724	0.7052
Partition Index	3.1521	4.273	3.1521
Separation Index	0.001	0.0014	0.001
Xie and Beni Index	27.7613	20.7979	27.7613
Dunn Index	0.0005	0.0007	0.0005
Alternative Dunn Index	0.0004	0.0002	0.0004
Number of valid clusters	IV options (S&P 100. τ_2–2 month) / **2**	IV options (NASDAQ 100. τ_1 – 1 month) / **4**	IV options (NASDAQ 100. τ_2–2 month) / **4**
Partition Coefficient	0.6792	0.6621	0.6619
Classification Entropy	0.724	0.654	0.6477
Partition Index	4.273	0.6509	0.4468
Separation Index	0.0014	0.0006	0.0007
Xie and Beni Index	20.7979	17.4487	9.7507
Dunn Index	0.0007	0.0035	0.0041
Alternative Dunn Index	0.0002	0.0024	0. 0012