

Table 1. results of MVA analysis at the four magnetosheath encounters.

Num	Time interval	L	M	N	$r_{23} = \varepsilon_2/\varepsilon_3$
1	22:23:50-22:24:12	0.0637 -0.3955 0.9162	0.4374 -0.8141 -0.3819	0.8970 0.4251 0.1212	4.56
2	22:24:20-22:25:15	0.0646 -0.2602 0.9634	-0.3877 0.8830 0.2645	-0.9195 -0.3906 -0.0438	5.27
3	22:32:30-22:32:52	0.0017 -0.6860 0.7276	0.8349 -0.3995 -0.3786	0.5504 0.6081 0.5721	1.82
4	22:32:52-22:33:14	-0.0561 0.3303 0.9422	-0.3946 0.8595 -0.3248	-0.9171 -0.3900 0.0821	2.25
5	22:35:35-22:36:00	0.2636 -0.4912 0.8302	0.1004 -0.8420 -0.5301	0.9594 0.2231 -0.1726	3.34
6	22:36:07-22:36:20	-0.0102 0.0117 0.9999	0.3363 0.9417 -0.0076	-0.9417 0.3362 -0.0135	2.77
7	22:38:41-22:39:05	0.2307 -0.4125 0.8813	0.0363 -0.9014 -0.4314	0.9724 0.1315 -0.1930	3.42
8	22:39:05-22:40:30	-0.0574 -0.7802 0.6229	-0.5073 -0.5145 -0.6913	-0.8599 0.3556 0.3662	1.07