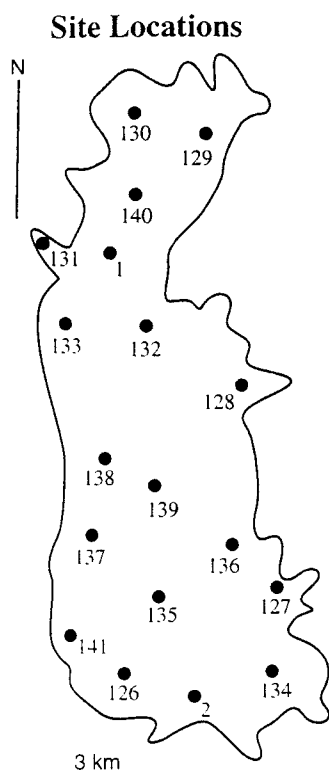
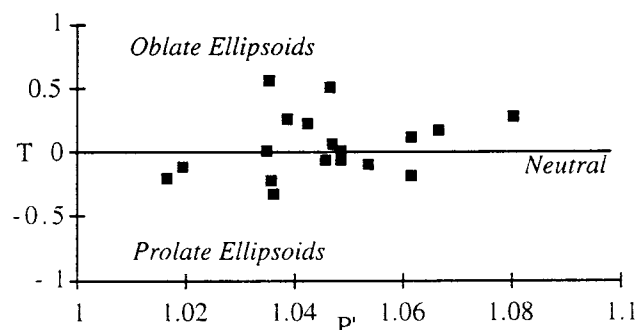
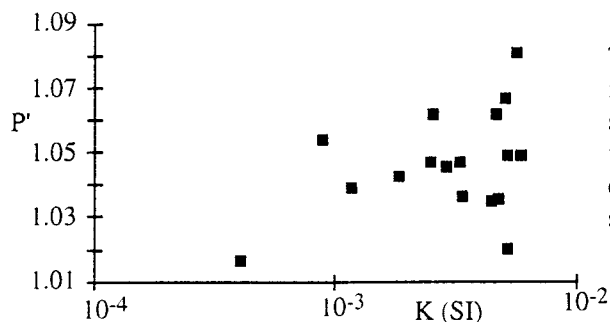
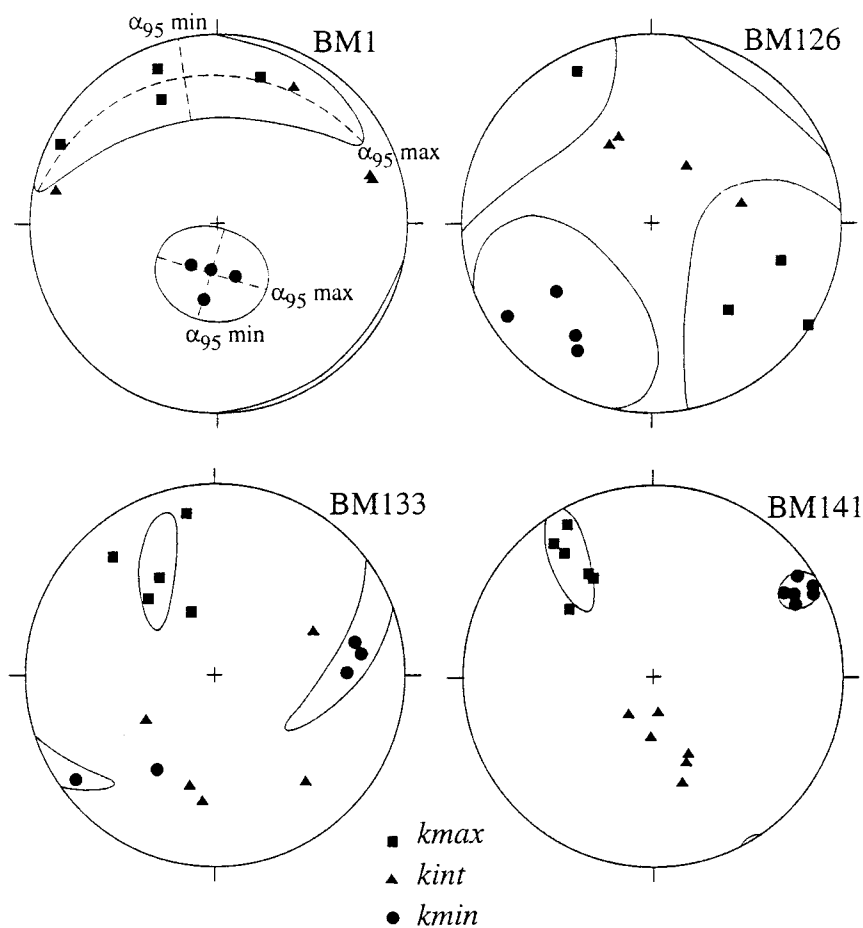




AMS Scalar Parameter Variations



Representative Examples of Directional Data Distribution



The distribution of principal susceptibility directions at each site can be categorized into one of four types on the basis of the maximum and minimum values of the 95% confidence ellipses (see BM1 for definition and Table overleaf for values).

These types are illustrated with four examples:

BM1: well defined k_{min} , k_{max} distributed along a great circle. Generally oblate site mean ellipsoid.

BM133: well defined k_{max} , k_{min} distributed along a great circle. Generally prolate site mean ellipsoid.

BM126: principal directions are scattered and α_{95} values $> 40^\circ$.

BM141: principal directions are well clustered and α_{95} values $< 25^\circ$.

AMS Data for the Bald Mountain Pluton, central Sierra Nevada Batholith, California

Site	N	K (SI)	±	kmax			kmin			Fabric Parameters			
				Dec	Inc	α95	kmin	Dec	Inc	α95	T	P'	
BM1	4	1.180E-03	2.667E-05	1.205E-03	349	21	69-22	1.152E-03	187	68	24-21	0.258	1.039
BM2	5	5.281E-03	1.437E-04	5.428E-03	113	14	31-21	5.141E-03	356	61	22-20	-0.068	1.048
BM126	4	4.729E-03	1.659E-04	4.890E-03	124	16	60-40	4.558E-03	223	28	43-38	0.105	1.062
BM127	4	2.492E-03	6.632E-05	2.557E-03	121	7	62-3	2.425E-03	213	18	76-35	0.059	1.047
BM128	3	5.206E-03	5.781E-05	5.266E-03	324	40	85-31	5.151E-03	218	18	86-72	-0.116	1.020
BM129	2	4.825E-03	6.411E-04	4.905E-03	344	41	-	4.709E-03	208	41	-	0.550	1.035
BM130	2	4.499E-03	1.624E-03	4.588E-03	126	15	-	4.411E-03	227	34	-	0.006	1.035
BM131	3	6.447E-05	1.278E-06	6.583E-05	250	38	74-29	6.330E-05	84	52	78-7	-0.228	1.036
BM132	2	4.097E-04	1.104E-04	4.138E-04	110	8	-	4.062E-04	213	29	-	-0.201	1.017
BM133	5	3.313E-03	9.270E-05	3.388E-03	332	37	27-7	3.210E-03	76	18	52-8	0.496	1.047
BM134	6	2.560E-03	8.732E-05	2.652E-03	128	43	14-08	2.479E-03	37	1	36-5	-0.187	1.062
BM135	4	8.956E-04	2.684E-05	9.234E-04	316	10	68-28	8.699E-04	204	65	78-15	-0.102	1.054
BM136	6	1.853E-03	4.553E-05	1.896E-03	320	13	48-3	1.805E-03	219	39	21-06	0.209	1.042
BM137	6	5.149E-03	1.955E-04	5.334E-03	305	42	44-23	4.945E-03	115	47	43-22	0.166	1.067
BM138	5	3.419E-03	6.801E-05	3.493E-03	322	24	45-20	3.360E-03	78	46	45-17	-0.326	1.036
BM139	7	2.944E-03	7.549E-05	3.022E-03	120	4	41-19	2.871E-03	217	60	20-11	-0.062	1.046
BM140	6	5.937E-03	1.632E-04	6.101E-03	131	22	39-16	5.775E-03	222	3	24-11	0.004	1.049
BM141	6	5.700E-03	2.627E-04	5.938E-03	325	24	27-07	5.418E-03	60	11	13-6	0.276	1.080
Averages	4	3.359E-03	2.141E-04	3.448E-03				3.264E-03				0.047	1.045

AMS determinations made on an SI2-B induction coil instrument using 6 orientations and a measurement time of 1s

N = number of specimens measured/site

Averaging of the data for each site was done using the Hext/Jelinek tensor averaging method (Leinert 1991, J. Geophys. Res., 96, 19 539 - 19 544)

Mean directions for sites with 2 samples were defined as the vector average for each of the two sets of principal directions

Bulk susceptibility $K = (k_{max} + K_{int} + K_{min})/3$ where $k_{max} > k_{int} > k_{min}$ are the principal magnetic susceptibilities; ± is the standard deviation of K

Dec, Inc are the declination and inclination of the average principal susceptibility directions for each site.

α95 — these are the angles which define the maximum and minimum axes of the 95% confidence ellipse defined during the averaging of each site

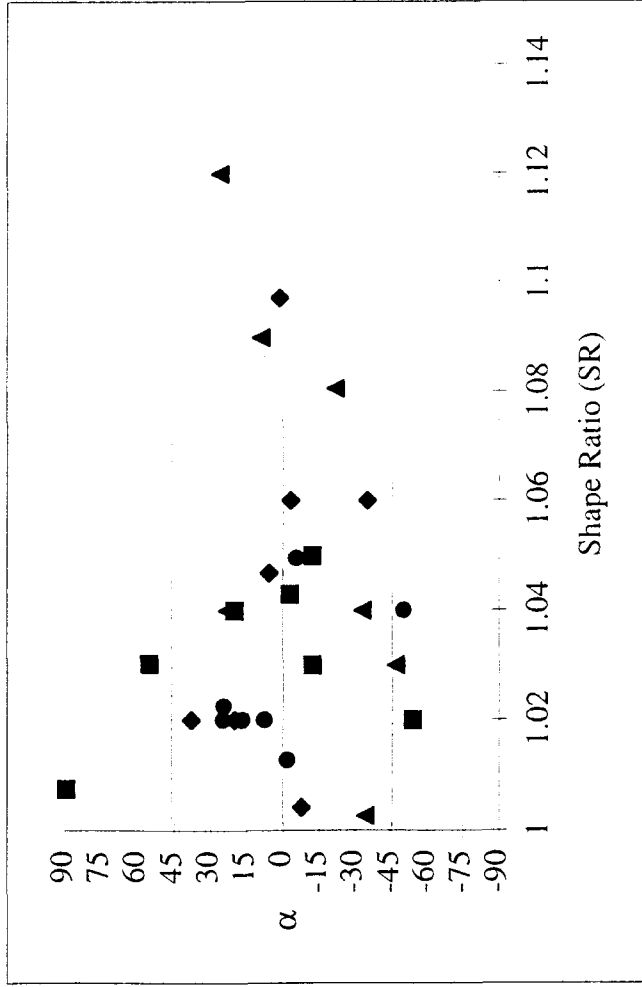
(see accompanying figure) (not determined for sites with only 2 samples)

T is Jelinek's shape parameter, $T = [2(\ln k_{int} - \ln k_{min})/(\ln k_{max} - \ln k_{min})] - 1$. T = 0, 0 to 1 and 0 to -1 are neutral, oblate and prolate ellipsoids respectively

P' is the anisotropy degree parameter, $P' = \exp[2(a_1^2 + a_2^2 + a_3^2)]$ where $a_1 = \ln(k_{max}/K)$ etc.

Image Analysis Data for the Bald Mountain Pluton

Sample	Phase	Mode	k_{max}/k_{int}		k_{max}/k_{min}		k_{int}/k_{min}	
			α	SR	α	SR	α	SR
BM128	plagioclase	34.39	-2.80	1.043	55.30	1.030	89.50	1.008
	k-feldspar	15.40	-7.60	1.004	6.00	1.047	1.70	1.097
	mafics	4.34	-34.40	1.003	-21.90	1.081	9.10	1.090
	quartz	48.05	-1.40	1.013	-5.20	1.049	24.90	1.022
BM139	plagioclase	25.51	-	-	-12.00	1.050	20.00	1.040
	k-feldspar	33.97	-	-	-35.00	1.060	-3.00	1.060
	mafics	4.85	-	-	-47.00	1.030	23.00	1.040
	quartz	35.67	-	-	-50.00	1.040	8.00	1.020
BM133	plagioclase	29.02	-12.00	1.030	-54.00	1.020	-	-
	k-feldspar	34.64	38.00	1.020	20.00	1.020	-	-
	mafics	1.68	26.00	1.120	-33.00	1.040	-	-
	quartz	34.66	25.00	1.020	17.00	1.020	-	-

**References**

- Cruden, A. R. & Launeau, P. 1994. Structure, magnetic fabric and emplacement of the Archean Lebel Stock, S.W. Abitibi Greenstone Belt. *J. Struct. Geol.* 16, 677-691.
- Launeau, P., Bouchez, J.-L. & Benn, K. 1991. Shape preferred orientation of object populations: automatic analysis of digitized images. *Tectonophysics*. 180, 201-211.
- Launeau, P., Cruden, A. R. & Bouchez, J.-L. 1994. Mineral recognition in digital images of rocks: a new approach using multichannel classification. *Can. Mineral.* 32, 919-933.