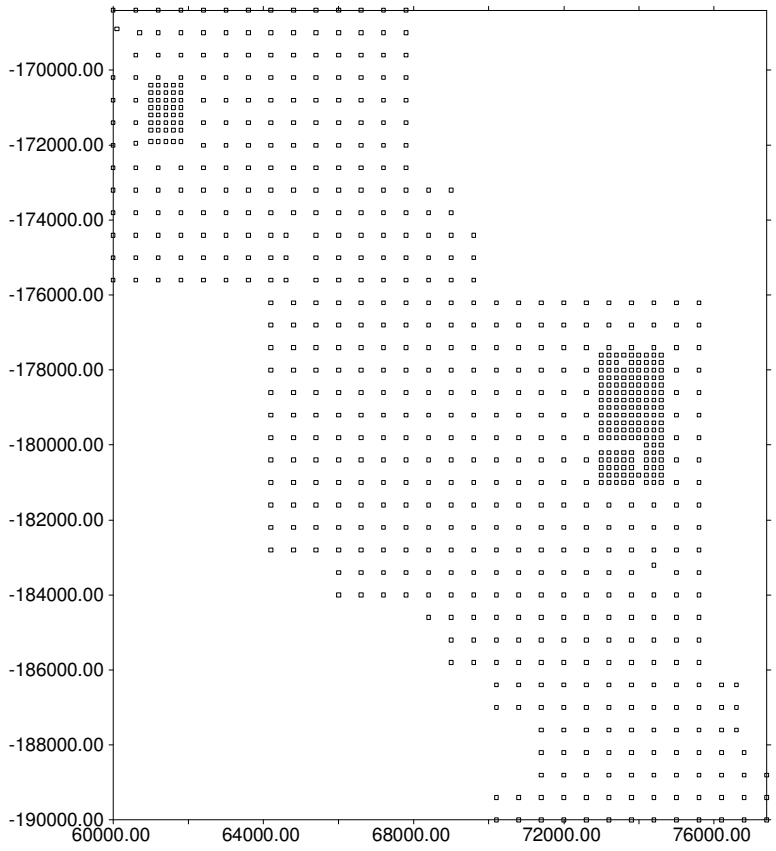
ANÁLISE GEOQUÍMICA DOS SOLOS DA REGIÃO DE MOURA-FICALHO (ALENTEJO)

Objectivo

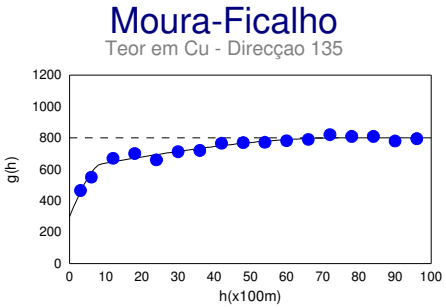
Modelar a dispersão de diversos elementos químicos nos solos, visando a localização de zonas com valores anómalos (prospecção geoquímica).

Dados

750 amostras de solos colhidas nos nós de uma malha de 600x600*m* (em algumas zonas a malha é de 200x200*m*). Em cada amostra analisaram-se os teores em 36 elementos químicos.



Variogramas



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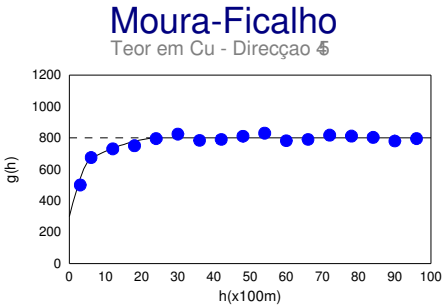
a_2=7500
c_0=300
c_1=300
c_2=200



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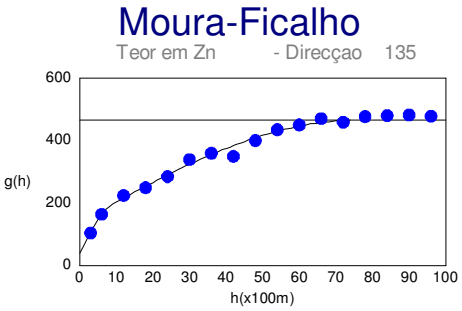
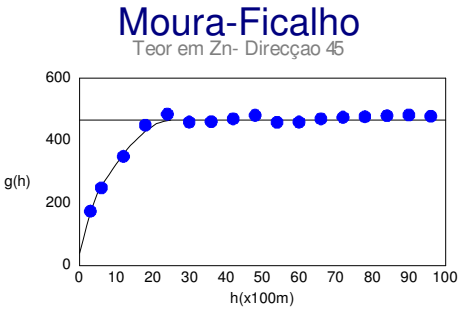


a_1=900
a_2=7500
c_0=40
c_1=100
c_2=325



a_1=600
a_2=2500
c_0=40
c_1=100
c_2=325

ALJUSTREL - MINA DO MOINHO (PISO 255)

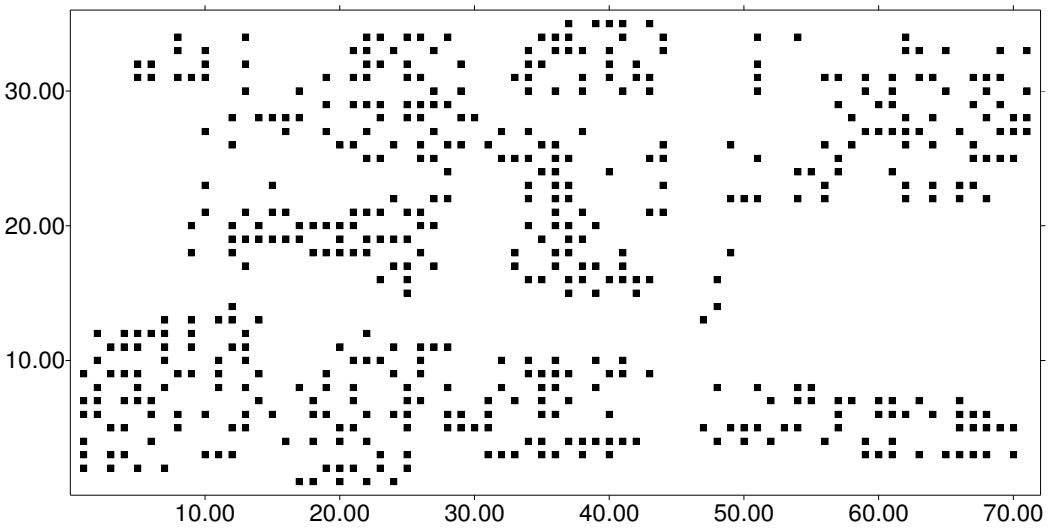
OBJECTIVO

Estudar as associações de variáveis e a estrutura das amostras e definir tipos de minério.

DADOS

491 amostras colhidas no piso 255 e analisadas em 6 elementos químicos: S, Fe, Cu, Zn, Pb e As.

LOCALIZAÇÃO DAS AMOSTRAS



ALJUSTREL - MINA DO MOINHO (PISO 255)

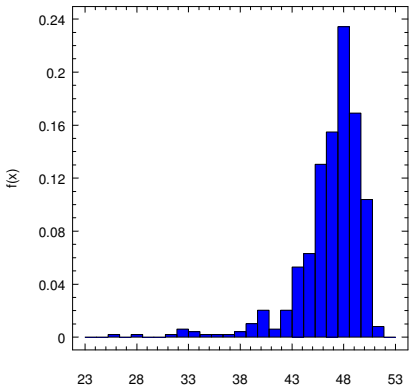
ESTATÍSTICOS BÁSICOS

	S	Fe	Cu	Zn	Pb	As
Mínimo	25.24	23.85	0.11	0.34	0.14	0.04
Máximo	51.10	45.89	11.27	12.38	5.56	6.10
1ºQuartil	45.73	39.10	0.48	1.50	0.56	0.25
3º Quartil	48.76	42.63	1.25	4.64	2.17	0.81
Mediana	47.52	41.07	0.72	2.80	1.20	0.49
Média	46.77	40.55	1.05	3.28	1.46	0.68
H	3.03	3.53	0.77	3.14	1.61	0.56
Desvio Padrão	3.26	3.05	0.98	2.21	1.09	0.69
Coef. variação	3.03	3.57	0.77	3.18	1.59	0.55

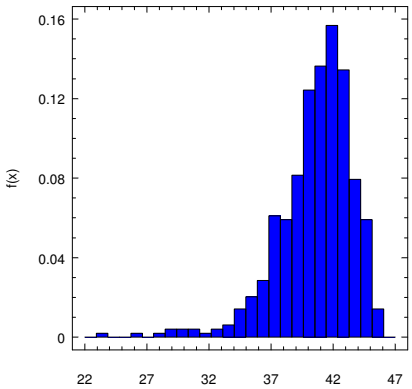
ALJUSTREL - MINA DO MOINHO (PISO 255)

HISTOGRAMAS

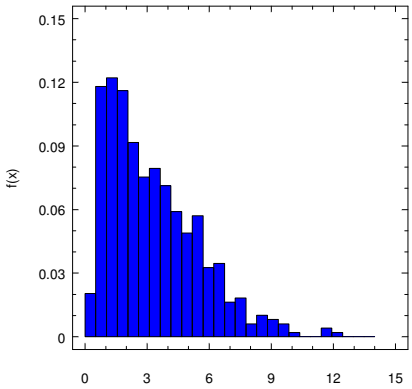
S



Fe



Zn



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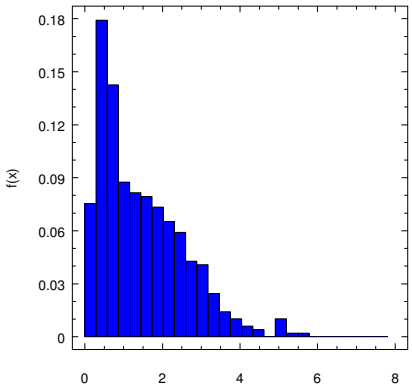
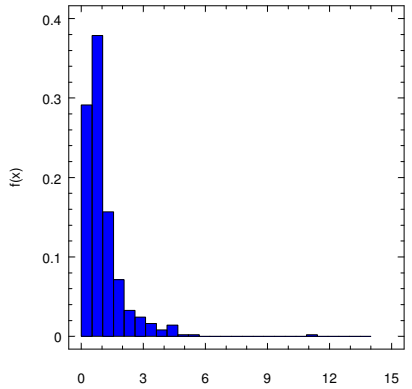
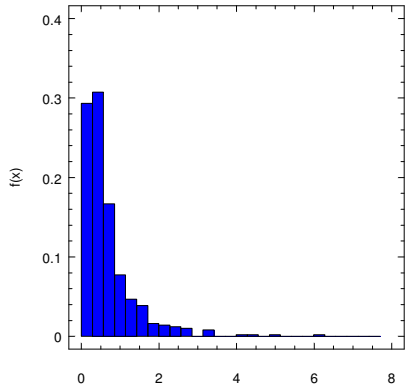


Cu

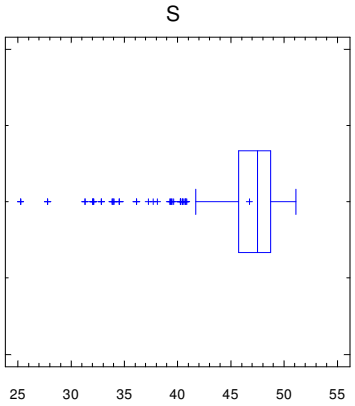


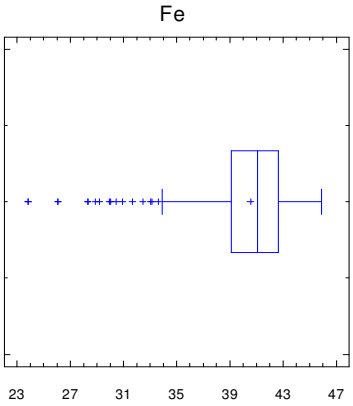
As

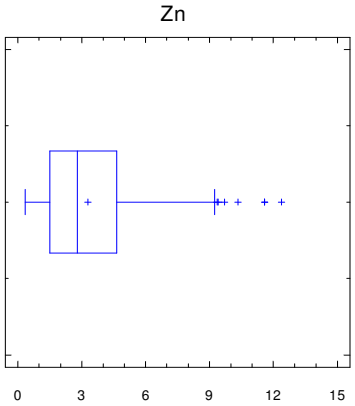


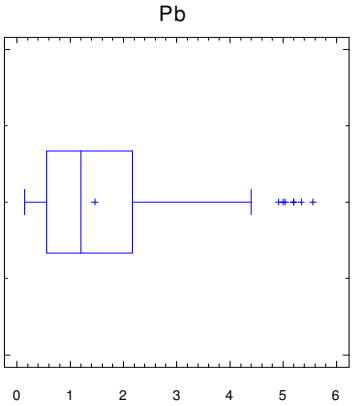
ALJUSTREL - MINA DO MOINHO (PISO 255)

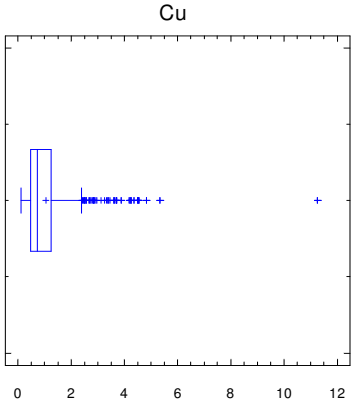
BOX PLOTS

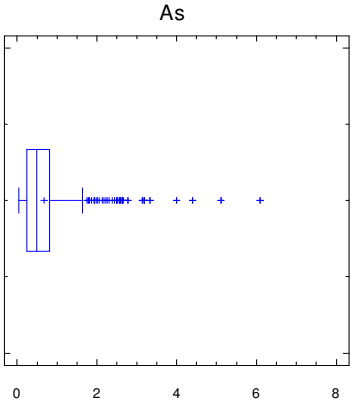




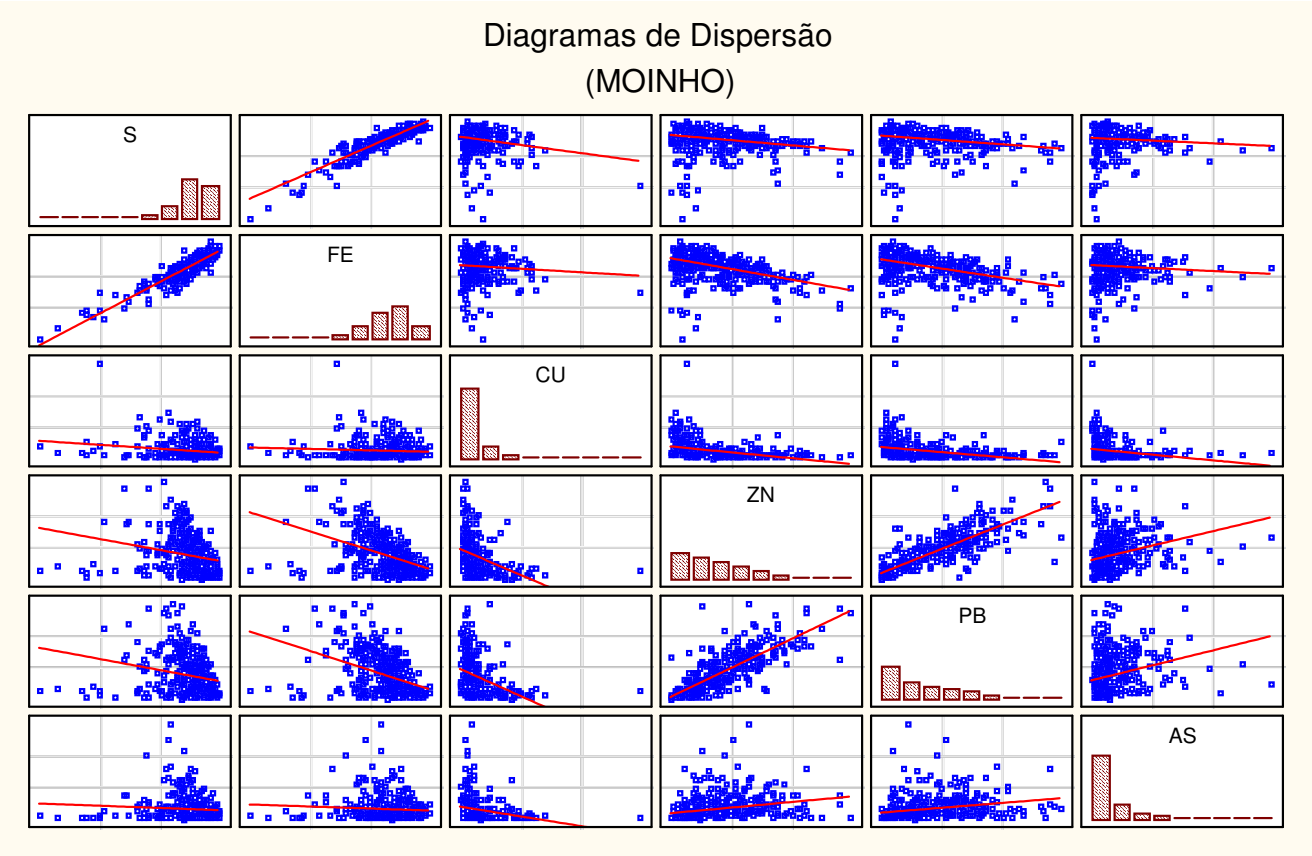








ALJUSTREL - MINA DO MOINHO (PISO 255)



ALJUSTREL - MINA DO MOINHO (PISO 255)

MATRIZ DE CORRELAÇÃO

	S	Fe	Cu	Zn	Pb	As
S	1.00	0.91	-0.18	-0.24	-0.22	-0.08
Fe	0.91	1.00	-0.07	-0.45	-0.42	-0.08
Cu	-0.18	-0.07	1.00	-0.39	-0.37	-0.23
Zn	-0.24	-0.45	-0.39	1.00	0.83	0.28
Pb	-0.22	-0.42	-0.37	0.83	1.00	0.27
As	-0.08	-0.08	-0.23	0.28	0.27	1.00

ALJUSTREL - MINA DO MOINHO (PISO 255)

MATRIZ DE CORRELAÇÃO

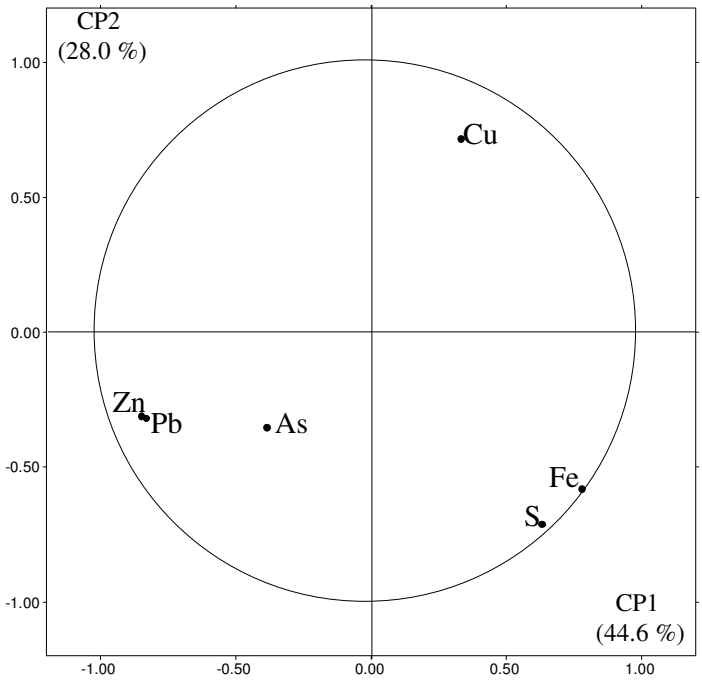
	S	Fe	Cu	Zn	Pb	As
S	1.00	0.91	-0.18	-0.24	-0.22	-0.08
Fe	0.91	1.00	-0.07	-0.45	-0.42	-0.08
Cu	-0.18	-0.07	1.00	-0.39	-0.37	-0.23
Zn	-0.24	-0.45	-0.39	1.00	0.83	0.28
Pb	-0.22	-0.42	-0.37	0.83	1.00	0.27
As	-0.08	-0.08	-0.23	0.28	0.27	1.00

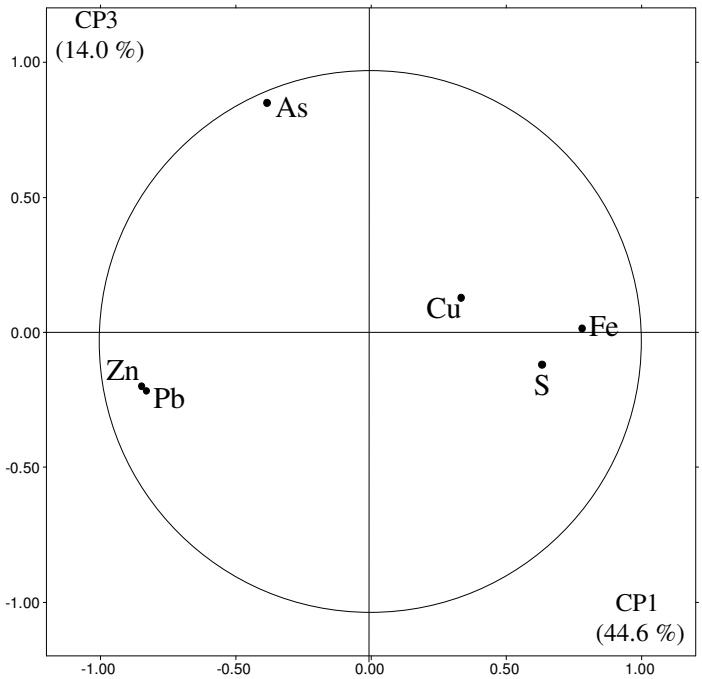
EIXOS FACTORIAIS

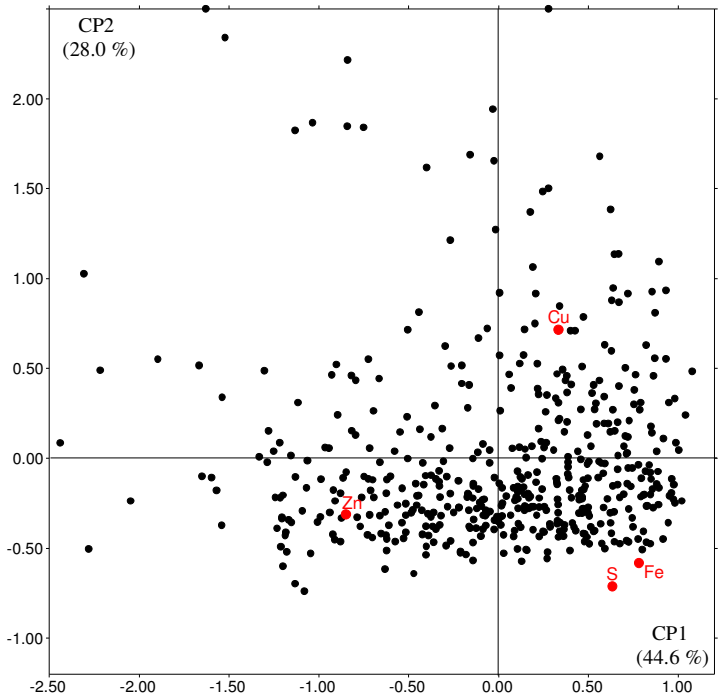
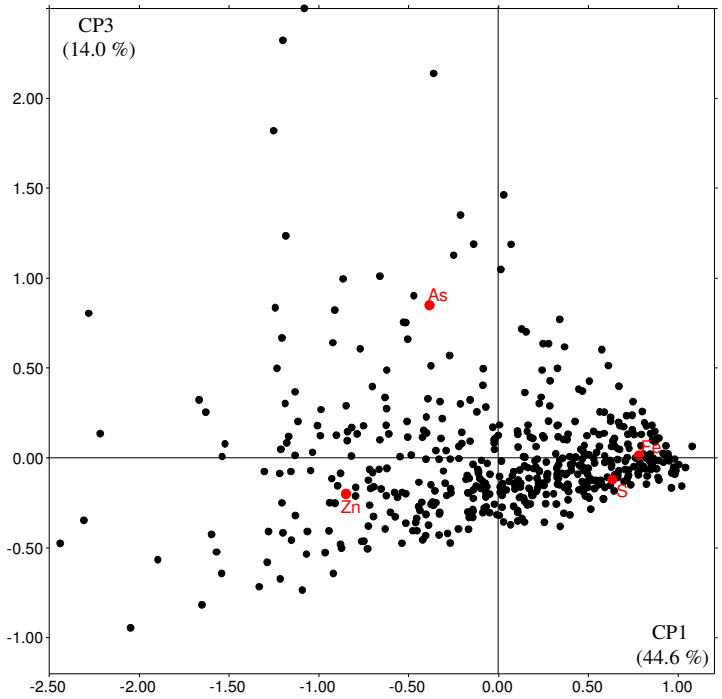
	Eixo 1	Eixo 2	Eixo 3	Eixo 4	Eixo 5	Eixo 6
Valor próprio	2.676	1.681	0.841	0.568	0.176	0.063
Var. Exp. (%)	44.60	28.02	14.01	9.46	2.86	1.05
Var. Acum. (%)	44.60	72.62	86.63	96.09	98.09	100.0

ALJUSTREL - MINA DO MOINHO (PISO 255)

PROJECÇÃO DAS VARIÁVEIS NOS 1º E 2º PLANOS FACTORIAIS





ALJUSTREL - MINA DO MOINHO (PISO 255)

PROJECÇÃO DAS AMOSTRAS NO 1º E 2º PLANOS FACTORIAIS