

BSMA2E data structure

BSMA2E data files are named according to the pattern 2EYYMMDD.XL. YY indicates year and MM indicates month. DD indicates day in case of diurnal files and DD = 00 in case of monthly files.

A file consists of a text table, which is easy to read using Notepad or MS Excel. The first line of the file is the header and the following lines are the data lines. One data line consists of results of one 10-minute measuring cycle presented by 64 numbers separated using TAB symbols. The columns of the table are explained in the table below.

One size or mobility decade contains just 8 logarithmically divided fractions. Thus the values of the distribution function $dn / d(\log d)$ can be estimated by multiplying the fraction concentrations to the factor of 8.

No	Header	Value	Sign	Mobility or diameter range, $\text{cm}^2\text{V}^{-1}\text{s}^{-1} / \text{nm}$
1	YYMMDD	Date YYMMDD		
2	HHMM	Time HHMM (center of the interval)		
3	DAY	Day of year (3 decimal places)		
4	T:C	Temperature, °C (1 decimal place)		
5	RH:%	Rel. humidity, % (1 decimal place)		
6	p:mb	Air pressure, mb (1 decimal place)		
7	noise	Estimate of noise sigma, cm^{-3}		
8	d+.42-.56	Size fraction concentration, cm^{-3}	+	0.42- 0.56
9	d+.56-.75	Size fraction concentration, cm^{-3}	+	0.56- 0.75
10	d+.75-1.0	Size fraction concentration, cm^{-3}	+	0.75- 1.00
11	d+1.0-1.3	Size fraction concentration, cm^{-3}	+	1.00- 1.33
12	d+1.3-1.8	Size fraction concentration, cm^{-3}	+	1.33- 1.78
13	d+1.8-2.4	Size fraction concentration, cm^{-3}	+	1.78- 2.37
14	d+2.4-3.2	Size fraction concentration, cm^{-3}	+	2.37- 3.16
15	d+3.2-4.3	Size fraction concentration, cm^{-3}	+	3.16- 4.22
16	d+4.3-5.6	Size fraction concentration, cm^{-3}	+	4.22- 5.62
17	d+5.6-7.5	Size fraction concentration, cm^{-3}	+	5.62- 7.50
18	d- .42-.56	Size fraction concentration, cm^{-3}	-	0.42- 0.56
19	d- .56-.75	Size fraction concentration, cm^{-3}	-	0.56- 0.75
20	d- .75-1.0	Size fraction concentration, cm^{-3}	-	0.75- 1.00
21	d- 1.0-1.3	Size fraction concentration, cm^{-3}	-	1.00- 1.33
22	d- 1.3-1.8	Size fraction concentration, cm^{-3}	-	1.33- 1.78
23	d- 1.8-2.4	Size fraction concentration, cm^{-3}	-	1.78- 2.37
24	d- 2.4-3.2	Size fraction concentration, cm^{-3}	-	2.37- 3.16
25	d- 3.2-4.3	Size fraction concentration, cm^{-3}	-	3.16- 4.22
26	d- 4.3-5.6	Size fraction concentration, cm^{-3}	-	4.22- 5.62
27	d- 5.6-7.5	Size fraction concentration, cm^{-3}	-	5.62- 7.50
28	z+.03-.04	Mobility fraction concentration, cm^{-3}	+	0.032–0.042
29	z+.04-.06	Mobility fraction concentration, cm^{-3}	+	0.042–0.056
30	z+.06-.08	Mobility fraction concentration, cm^{-3}	+	0.056–0.075
31	z+.08-.10	Mobility fraction concentration, cm^{-3}	+	0.075–0.100
32	z+.10-.13	Mobility fraction concentration, cm^{-3}	+	0.100–0.133

No	Header	Value	Sign	Mobility or diameter range, $\text{cm}^2\text{V}^{-1}\text{s}^{-1} / \text{nm}$
33	z+.13-.18	Mobility fraction concentration, cm^{-3}	+	0.133–0.178
34	z+.18-.24	Mobility fraction concentration, cm^{-3}	+	0.178–0.237
35	z+.24-.32	Mobility fraction concentration, cm^{-3}	+	0.237–0.316
36	z+.32-.42	Mobility fraction concentration, cm^{-3}	+	0.316–0.422
37	z+.42-.56	Mobility fraction concentration, cm^{-3}	+	0.422–0.562
38	z+.56-.75	Mobility fraction concentration, cm^{-3}	+	0.562–0.750
39	z+.75-1.0	Mobility fraction concentration, cm^{-3}	+	0.750–1.00
40	z+1.0-1.3	Mobility fraction concentration, cm^{-3}	+	1.00–1.33
41	z+1.3-1.8	Mobility fraction concentration, cm^{-3}	+	1.33–1.78
42	z+1.8-2.4	Mobility fraction concentration, cm^{-3}	+	1.78–2.37
43	z+2.4-3.2	Mobility fraction concentration, cm^{-3}	+	2.37–3.16
44	z-.03-.04	Mobility fraction concentration, cm^{-3}	–	0.032–0.042
45	z-.04-.06	Mobility fraction concentration, cm^{-3}	–	0.042–0.056
46	z-.06-.08	Mobility fraction concentration, cm^{-3}	–	0.056–0.075
47	z-.08-.10	Mobility fraction concentration, cm^{-3}	–	0.075–0.100
48	z-.10-.13	Mobility fraction concentration, cm^{-3}	–	0.100–0.133
49	z-.13-.18	Mobility fraction concentration, cm^{-3}	–	0.133–0.178
50	z-.18-.24	Mobility fraction concentration, cm^{-3}	–	0.178–0.237
51	z-.24-.32	Mobility fraction concentration, cm^{-3}	–	0.237–0.316
52	z-.32-.42	Mobility fraction concentration, cm^{-3}	–	0.316–0.422
53	z-.42-.56	Mobility fraction concentration, cm^{-3}	–	0.422–0.562
54	z-.56-.75	Mobility fraction concentration, cm^{-3}	–	0.562–0.750
55	z-.75-1.0	Mobility fraction concentration, cm^{-3}	–	0.750–1.00
56	z-1.0-1.3	Mobility fraction concentration, cm^{-3}	–	1.00–1.33
57	z-1.3-1.8	Mobility fraction concentration, cm^{-3}	–	1.33–1.78
58	z-1.8-2.4	Mobility fraction concentration, cm^{-3}	–	1.78–2.37
59	z-2.4-3.2	Mobility fraction concentration, cm^{-3}	–	2.37–3.16
60	power	Power voltage, V		
61	filter	Filter voltage (for - ions), V	+	
62	filter	Filter voltage (for + ions), V	–	
63	scans	Number of scans in the cycle		
64	balance	Autobalance potentiometer, %		