EMEP – 39th intercomparison of analytical methods - % deviation from expected value

Precipitation

	SO_4^{2-}				NH_4^+				NO_3^-				Na^+				Mg^{2+}				Cl^-				Ca^{2+}				K^+				pH				Cond			
	% deviation form expected value				% deviation form expected value				% deviation form expected value				% deviation form expected value				% deviation form expected value				% deviation form expected value				% deviation form expected value				% deviation form expected value				pH-units from expected value				% deviation form expected value			
Lab no	G1	G2	G3	G4	G1	G2	G3	G4	G1	G2	G3	G4	G1	G2	G3	G4	G1	G2	G3	G4	G1	G2	G3	G4	G1	G2	G3	G4	G1	G2	G3	G4	G1	G2	G3	G4	G1	G2	G3	G4
3	-2	-3	6	1	5	3	4	5	-1	0	2	1	4	4	6	6	9	8	6	5	2	-1	-1	-1	3	6	11	0	4	5	3	3	-0.08	-0.05	0.06	0.01	0	1	3	2
4	-3	-1	2	-3	-5	-7	-1	-2	2	3	3	2	5	6	1	1	-4	-7	-6	-6	5	1	-2	-3	-12	-11	-3	-10	-18	-15	-16	-13	0.10	0.09	0.07	0.06				
5	-2	3	6	-1	3	0	3	2	3	2	2	1	1	1	0	0	5	0	6	3	0	-1	-1	-1	2	5	10	1	5	5	6	3	0.22	0.07	0.02	0.04	-3	-3	0	0
6	5	5	10	5	-1	12	10	7	-1	0	1	1	1	3	1	1	-6	-8	-3	-4	3	4	4	4	0	-2	6	-1	-2	-2	-1	-1	0.00	0.10	0.12	0.11	5	8	3	11
7	0	1	6	3	-2	-7	-2	0	-1	3	5	6	-8	-6	-6	-4	-8	-11	-6	-8	-1	-1	-3	0	-18	-14	-1	-6	-7	-5	-5	1	0.40	0.37	0.29	0.14	-12	-7	-8	-9
8	-3	-2	8	-4	0	0	2	2	-1	2	-3	-3	0	1	0	0	0	-6	-1	0	-4	-3	1	-3	-5	-6	5	-2	-3	0	-2	0	-0.06	0.05	0.00	0.00	3	2	2	1
10	5	4	7	2	-19	-7	-3	-1	0	-2	1	0	14	13	5	6	-6	-5	6	5	8	3	0	-1	13	16	12	5	-2	-2	-2	-2	0.03	0.03	-0.06	-0.07	3	5	3	2
12	-5	-6	2	-3	-38	10	12	15	0	-2	1	-1	-16	-15	-5	-6	-13	-11	-3	-3	-2	-2	-4	-6	-27	-21	-12	-16	-13	-14	-9	-6	-0.06	0.06	-0.03	-0.02	0	-4	-3	-3
15	-1	0	4	-1	8	6	7	4	-3	-2	-1	-1	-5	-4	0	0	-1	-2	2	0	1	1	-2	-2	0	-2	9	-1	-5	-3	0	-1	0.07	0.00	-0.04	0.00	-3	0	-8	-12
16	-1	0	4	-1	4	-3	2	-1	0	-2	-1	-2	0	-1	-1	-2	4	1	4	2	-3	-5	-3	-3	-4	-2	5	-4	0	0	-1	1	0.12	0.10	0.08	0.10	1	2	0	0
19	-1	2	1	-3	20	12	11	11	-4	1	-3	-2	-8	-2	-4	-3	4	7	9	8	13	12	-5	-6	-4	1	7	1	-9	-4	-3	-2	0.08	0.04	0.04	0.02	-3	-5	-6	-7
20	1	1	4	-1	14	2	3	2	1	1	0	0	14	7	-2	-6	10	6	5	1	9	0	0	-1	15	2	11	-2	9	1	6	3	-0.02	0.07	0.02	0.04	4	4	2	1
21	-1	0	3	-1	-1	-2	-2	-2	-1	-2	-1	-1	-3	-2	-3	-3	6	6	11	10	-2	-4	-3	-4	-16	-15	-11	-19	10	9	11	11	0.07	0.05	0.03	0.02	1	1	1	1
22	172	187	228	228	-39	-25	-19	-12	-5	-3	-2	0	111	-9	-9	-10	236	164	130	125	11	9	8	9	98	51	32	12	-7	-9	-9	-5	0.03	0.04	0.04	0.13	-4	-5	-14	-14
23	-9	-8	-6	-8	-14	-7	-8	-8	-6	-5	-4	0	-11	-7	-7	-7	0	-2	-11	-13	-12	-1	-13	-15	11	21	-2	-16	-14	-14	-12	-11	-0.09	-0.17	-0.08	-0.06	-20	-27	-8	-9
24			3	0							5	5											3	4									-0.13	-0.12			3	3
26	-1	0	4	-1	3	1	4	3	0	0	0	0	-3	0	-2	0	3	2	2	0	0	-1	-1	-2	0	2	8	-1	-1	2	0	0	0.03	-0.01	-0.03	-0.02				
27	0	2	7	1	-3	1	5	3	4	5	4	2	-3	0	-3	-3	3	2	5	3	2	3	3	2	3	0	7	-1	0	3	1	0	0.06	0.01	0.00	-0.01	1	2	2	2
30	-16	-15	-3	-6	-6	-4	4	-2	-7	-5	-3	-2	-3	-3	-2	-2	3	2	2	0	2	0	8	7	2	13	-4	-8	3	0	2	2	-1.02	-0.33	-0.30	-0.25	-46	-44	-41	-44
31	-1	-1	4	-1	1	-1	3	2	0	0	1	1	-6	-6	-1	-1	-16	-16	-5	-5	-4	-5	-3	-5	-22	-13	2	-5	-15	-11	-3	1	-0.19	-0.15	-0.04	0.03	6	6	5	4
32	3	0	-1	-7	-19	-6	1	3	-3	-5	-3	-5	-6	0	-1	1	12	2	0	0	0	-7	-11	-11	6	-5	0	-6	-5	6	5	5	0.12	0.09	0.10	0.07	-3	5	1	-2
33	1	-2	3	-3	-18	-12	-5	-3	-3	-2	-2	-2	12	16	3	1	-10	-3	1	0	-6	-6	-4	-3	-15	-6	12	8	-6	-4	-2	-3	-0.01	-0.01	-0.02	-0.05	4	5	4	4
34	-10	-10	-1	-7	-100	-100	-66	-58	-16	-15	-11	-11	7	8	5	4	0	-2	0	-2	-5	-5	2	-2	5	-17	8	0	7	2	6	9	-2.03	-1.35	-1.34	-0.62	43	317	30	88
35	5	2	6	1	9	2	1	4	3	1	2	2	8	5	3	2	1	1	5	3	9	2	1	1	5	1	12	3	6	3	6	4	-0.55	-0.56	-0.50	-0.39	3	5	3	2
36	-1	-1	5	1	-3	-1	0	2	-1	-1	0	0	3	3	1	1	5	5	5	1	-5	-5	-2	-2	-1	2	8	-2	-3	-3	-1	3	0.08	0.25	0.12	-0.02	-5	-5	-4	-3
38	0	0	3	-1	1	5	5	3	-2	-2	-1	0	-12	-13	-5	-5	-3	0	2	1	-3	-3	-2	-2	-17	-11	4	-4	-4	-3	-4	-3	-0.22	-0.30	-0.30	-0.12	6	6	7	7
39	-1	0	5	0	-3	-1	8	5	0	1	3	3	-5	-4	-2	-3	0	-1	3	1	-2	-4	-2	-3	-3	-1	7	-1	-4	-4	-3	-2	0.16	0.10	0.07	0.00	0	-2	-3	-1
40					39	10	26	15	-14	-10	-6	-5									6	18	16	14									0.31	-0.03	-0.02	0.11	32	19	0	-3
42																																	-0.04	-0.02	-0.20	-0.05	88	77	10	9
46																																	0.21	0.10	0.07	-0.01	-9	-8	-2	-3
47	1	-4	2	-2	24	13	8	14	0	0	3	3	-3	-3	-2	-2	0	3	1	0	-3	-3	-4	-3	0	0	4	-2	-4	-3	-1	-1	0.05	-0.16	-0.04	-0.19	1	0	2	1
49	1	0	4	0	29	8	12	11	1	3	4	5	1	-2	-1	-1	17	14	7	8	-1	0	-1	0	-2	-4	4	6	-5	1	0	2								
50	-9	-8	1	-3	11	7	7	1	-6	-5	-4	-3	-3	-2	-1	-1	-18	-18	-12	-11	-2	-2	-1	-1	-23	-20	-5	-17	-7	-6	-4	-3	-0.12	-0.28	0.02	0.05	5	5	5	4
110	5	13	1	-3	-1	-11	-6	-7	-2	-1	-6	-4	0	3	3	3	3	3	5	3	-2	28	-1	3	-4	0	7	-2	0	2	2	1	0.12	0.09	0.13	0.09			2	1
112	1	2	21	-9	-4	1	59	-33	-1	-5	42	-36	2	3	13	-8	2	-1	-1	-3	2	2	1	-9	-3	-4	2	-6	3	4	34	-21	-0.04	-0.04	-0.02	-0.06	-12	-12	-6	-5
114	-3	-4	2	-4	6	-1	2	-1	-2	-2	-1	-2	-13	-12	-11	-12	-9	-9	-7	-3	-5	-5	-4	-5	19	14	16	3	-10	-6	-7	-10	-0.01	-0.02	-0.03	-0.02	-3	-1	0	-1
116	35	1	13	6	63	61	66	66	-1	-2	-1	-1	25	14	9	8	17	14	1	-3	2	9	1	3	1	0	-1	-8	14	14	7	7	0.02	0.12	0.02	0.05	-9	-11	-9	-9
117	3	2	2	4	13	1	2	-1	-4	-4	-5	-4	-4	-1	-4	-4	-6	-5	0	-4	7	28	-7	-7	-5	-2	10	-2	-20	-11	-6	-8	0.32	0.28	0.26	0.22			-1	3
124	13	8	8	3					3	5	5	4	-1	1	1	3	-1	-3	2	3	6	4	4	4	-4	1	4	-3	-18	-14	-11	-11	-0.14	-0.18	-0.22	-0.26	-2	-7	-6	-11
145	-3	-6	0	-4	3	4	6	7	-4	-5	-1	-3	-6	-2	-3	-4	15	5	1	-4	-4	-5	-2	-5	16	2	11	-3	2	2	9	9	-1.36	-1.32	-2.27	-1.22	-5	-4	-1	0
153	-6	-5	-2	-6	-14	-2	0	0	-6	-5	-2	-4	23	0	5	4	-12	-7	1	6	-9	-9	-7	-8	-17	-14	2	-6	2	-9	-2	-4	0.21	0.20	0.11	0.20	6	7	8	7
155	-2	-1	3	-1	29	4	3	10	-1	-1	0	-2	3	0	-7	-8	0	0	0	-2	-8	-7	2	2	-1	-1	4	-3	-11	-9	-8	-7	0.08	0.03	0.07	0.03	-4	-3	-1	-2
166	-2	0	2	-1	6	-6	-9	-12	-3	-1	-2	-1	-1	-1	-2	-2	1	2	3	1	-6	-4	-4	-3		-7	4	-4			1	2							3	1
178	-2	-3	-1	-6	10	1	3	4	-2	-2	-3	-3	-7	-5	-5	-5	-9	-7	-3	-4	-3	-4	-5	-5	-4	-1	3	-4	-6	-4	-5	-5	-0.06	0.00	0.03	0.05	-10	-3	0	0
179	-5	-4	1	-2	0	-3	1	2	-4	-4	-3	-8	-5	-8	-6	-2				-6	5	5	-2	-2	7	-10	3	-11	0	0	3	-3					6	3	-1	-3
181	-1	-2	1	-3	0	1	2	-1	0	-2	-3	-1	0	1	-2	-1	4	2	1	0	4	4	-4	-2	1	0	5	0	4	2	2	2	-0.02	-0.09	-0.06	-0.20	-41	-17	0	3
187													-9	-6	10	5	-6	-10	2	-10									-39	-22	2	-31								
193	-20	-18	-22	-32		-3	9	8	-20	-13	-17	-12		-15	24	0			-3	-10	-42	-35	-7	-15	47	-21	-22	-41	-41	-14	2	-20								
200	-1	0	4	0	-3	-2	1	0	-1	0	1	1	2	0	0	1	4	-3	1	3	-9	-7	-1	-1	6	6	10	8	-1	-2	0	1	0.29	0.19	0.26	0.24	1	-1	0	-2
201					-6	-5	-4	-2	-18	-8	1	-1									753	1426	522	683	0	6	-20	-25					-0.38	-0.27	-0.19	-0.22	539	165	86	88
203					-6	-4	4	2	-18	-10	-9	-7	-16	-5	11	6	-9	-9	22	0			-4	-13					-38	-33	9	-25								

SO_4^{2-} and NO_3^-: between ±10 and 20%

SO_4^{2-} and NO_3^-: more than ±20%

NH_4^+, Cl^-, Na^+, Mg^{2+}, Ca^{2+}, K^+ and cond: between ±15 and 25%

NH_4^+, Cl^-, Na^+, Mg^{2+}, Ca^{2+}, K^+ and cond: more than ±25%

pH: between ±0.1 -0.2 pH-units

pH: more than ±0.2 pH-units