

Table S1. The small ion concentrations, chemical composition, and ion size distribution measurements: the first column on the left hand side indicates the reference, the second, third and fourth columns describe the site location and the measurement periods are in the fifth column, the air mass types in the sixth and the measurement altitudes and positions in the seventh columns.

| Reference | Site | Latitude | Longitude | Date | Air mass type | Platform |
|-------------------------------|--|----------|-----------|----------------------------------|------------------------|-----------------------------------|
| 1. Aplin & Harrison 2000 | -Mace Head, Irland | -N53 19 | -W9 54 | -27 June 1999 | -Marine | -Land |
| | -Reading Univ. Meteorology field station, England | -N51 45 | -W0.9 | -6 Oct. 1999 | - Urban | -At 1.25 m height (66 m ASL) |
| 2. Arnold et al. 1978 | South-West France | - | - | 12, 26 Sept, 10 Nov 1977 | - | Stratosphere 33-37 km |
| 3. Arnold 2008 | Laboratory, flight over Central Europe | - | - | - | - | Troposphere 8 km |
| 4. Asmi et al. 2009a | Laboratory | - | - | January-February 2008 | Calibration | - |
| 5. Asmi et al. 2009b | Antarctica | S73 03 | W13 25 | 12/2006-01/2007 | Marine/ Continental | Land (470m ASL) |
| 6. Blanchard 1966 | Shore of Hawaii | - | - | 1961-1962 | Marine | Land |
| 7. Dhanorkar & Kamra 1992 | Pune, India | N18 32 | E73 51 | 2 March- 15 May 1990 | Urban/rural | Land at 1 m height (559 m ASL) |
| 8. Dhanorkar & Kamra 1993a | Pune, India | N18 32 | E73 51 | 14-14 March and 8-9- May 1991 | Urban/rural | Land at 1 m height (559 m ASL) |

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|---------------------------------------|--|---------|---------|----------------------------------|------------------|---------------------------------------|
| 9. Dhanorkar & Kamra 1993b | Pune, India | N18 32 | E73 51 | February 1990- January 1991 | Urban/rural | Land at 1 m height (559 m ASL) |
| 10. Dhanorkar & Kamra 1994 | Pune, India | N18 32 | E73 51 | 14-14 March and 8-9- May 1991 | Urban/rural | Land at 1 m height (559 m ASL) |
| 11. Duplissy et al. 2010 | CERN laboratory | - | - | - | CLOUD experiment | - |
| 12. Ehn et al. 2010 | SMEAR II, Finland | N61 51 | E24 17 | 30 Apr.-8 May 2009 | Urban | (181 m ASL) |
| 13. Eichkorn et al. 2002 | Central Europe | - | - | 8 flights in summer 2000 | - | aeroplane Falcon, 9000-10000m |
| 14. Eichmeier & von Berckheim 1979 | shore at San Sebastian | - | - | - | Marine | Moving car, at ca. 2 m height |
| 15.-16. Eisele 1989a, b | Forestry Commision site, Dawsonville, Georgia | - | - | 30 Sept.-18 Nov. 1987 | Rural | Above the mobile laboratory |
| 17. Eisele et al. 2006 | -Jefferson Street sampling site, Atlanta, Georgia -NCAR Marshall field site, Boulder, Colorado | -N33 45 | -W84 23 | -Summer 2002 | -Urban | -Meter above the mobile laboratory |
| 18. Enghoff et al. 2008 | Laboratory | - | - | - | - | - |

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|--------------------------------|--|--------|--------|-------------------------------|-------------------|----------------------------------|
| 19. Fews et al. 2005 | 20 km out of Bristol, UK | - | - | - | Rural | - |
| 20. Gagné et al. 2008 | SMEAR II, Finland | N61 51 | E24 17 | 22 Sep 2005-22 Sep 2006 | Rural continental | Land (181 m ASL) |
| 21. Gagné et al. 2009 | SMEAR II, Finland | N61 51 | E24 17 | April 2005-Dec 2007 | Rural continental | Land (181 m ASL) |
| 22. Harrison & Aplin 2001 | Reading Univ. Meteorology field station, England | N51 45 | W0.9 | October 1999 February 2000 | Urban | (66 m ASL) |
| 23. Gopalakrishnan et al. 2005 | South West coast of India | N9.2 | E74.5 | 23 May-5 June 2003 | Marine | On boat (9 m ASL) |
| 24. Harrison & Aplin 2007 | Reading Univ. Meteorology field station, England | N51 45 | W0.9 | 7 days in May-June 2005 | Urban | Land at 1m height (66 m ASL) |
| 25. Haverkamp et al. 2004 | Laboratory | - | - | - | - | - |
| 26. Hirsikko et al. 2005 | SMEAR II, Finland | N61 51 | E24 17 | April 2003-April 2004 | Rural continental | Land at 1.6 m height (181 m ASL) |
| 27. Hirsikko et al. 2007a | SMEAR II, Finland | N61 51 | E24 17 | April 2003-March 2006 | Rural continental | Land (181 m ASL) |

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|---|------------------------------|--------|---------|---|-------------------|--|
| 28. Hirsikko et al. 2007b | Helsinki, Finland | N60 10 | E24 57 | 7-28 July 2004 (indoor) 30 July-7 Sep 2004 (outdoor) | Urban | Land at 2 m height (30 m ASL) |
| 29. Hirsikko et al., 2007c | SMEAR II Finland | N61 51 | E24 17 | March 2000- June 2006 | Rural continental | At 1.5 m (external radiation) & at 6 m (radon) height (181 m ASL) |
| 30. Hörrak et al. 1994 | Tahkuse & Tartu, Estonia | N58 31 | E24 56 | 1984-1989 (various measurement periods) | Rural continental | Land at 3/5 m height (37 m ASL) |
| 31. Hörrak et al. 1998a | Tahkuse, Estonia | N58 31 | E24 56 | 14 April – 16 May 1994 | Rural continental | Land at 5 m height (37 m ASL) |
| 32. Hörrak et al. 1998b, 33. Hörrak et al. 2000, 34. Hörrak et al. 2003 | Tahkuse, Estonia | N58 31 | E24 56 | September 1993 – October 1994 | Rural continental | Land at 5 m height (37 m ASL) |
| 35. Hörrak et al. 2008 | SMEAR II, Finland | N61 51 | E24 17 | 31 March-29 April 1999 | Rural continental | Land at 2 m height (181 m ASL) |
| 36. Iida et al. 2006 | Boulder, Colorado, USA | N40 1 | W105 17 | March – September 2004, May – October 2005 | Urban continental | Land, ground level |
| 37. Iida K. et al. 2008 | Tecamac, Mexico | N19 40 | W98 54 | 15 – 31 March 2006 | Urban continental | Land |
| 38. Jayaratne et al. 2010 | Australia & laboratory | - | - | - | Urban/road side | Land at 0.8 m height |
| 39. Junninen et al. 2008 | SMEAR II, Finland | N61 51 | E24 17 | 1 April 2003- 21 Dec 2006 | Rural continental | Land (181 m ASL) |

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|-----------------------------|--|------------------------------------|------------------------------------|---|---|--|
| 40. Junninen et al. 2010 | SMEAR III, Finland | N60 12 | E24 57 | Autumn 2009 | Urban background | Land |
| 41. Kamra et al. 2009 | Maitri, Antarctica | S70 45 | E11 44 | 20 February 2005 | Marine/continental | Land |
| 42. Komppula et al. 2007 | Baltic Sea region: -Utö -SMAER II -Tahkuse | -N59 47 -N61 51 -N58 31 | -E21 23 -E24 17 -E24 56 | Spring 2004 | Marine and continental | -At 2 m height (8 m ASL) -At 2 m height (181 m ASL) -At 5 m height (37m ASL) |
| 43. Kulmala et al. 2004b | SMEAR II, Finland | N61 51 | E24 17 | 15 Mar. - 10 Apr. 2004 | Rural continental | Land (181 m ASL) |
| 44. Kulmala et al. 2005 | SMEAR II, Finland | N61 51 | E24 17 | 25 – 27 March 2003 | Rural continental | Land |
| 45. Kulmala et al. 2007 | -SMEAR II, Finland -Birmingham, UK | -N61 51 - N52 27 | -E24 17 -W1 44 | spring 2006 | -Rural continental -Urban continental | -Land (181 m ASL) -Land |
| 46. Kulmala et al. 2009 | -SMEAR II -Hohen- peissenberg -Melpitz -Falcon | -N61 51 -N47 48 -N51 32 - | -E24 17 -E11 01 -E12 54 - | -1996-2008 -20 July 2007-28 Dec 2008 -April 2008-May 2009 -2 May-24 May 2008 | -Rural continental -Rural continental -Rural polluted continental - | -Land (181 m ASL) -18m height (985m ASL) -Land (87m ASL) -aeroplane, over middle and west Europe |
| 47. Laakso et al. 2004a | SMEAR II, Finland | N61 51 | E24 17 | 20 March – 11 April 2003 | Rural continental | Land |

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|-------------------------------|--------------------------|-----------|-----------|------------------------------------|-------------------|--|
| 48. Laakso et al. 2004b | SMEAR II, Finland | N61 51 | E24 17 | 24-29 March | Rural continental | Land at 1.6 m height (181 m ASL.) |
| 49. Laakso et al. 2007a | SMEAR II, Finland | N61 51 | E24 17 | Spring 2005 | Rural Continental | Land at 2 and 9 m height, (181m ASL) |
| 50. Laakso et al. 2007b | Helsinki, Finland | N60 12.17 | E24 57.67 | November 2005 | Urban/waterfall | Land (30 m ASL) |
| 51. Laakso et al. 2007c | SMEAR II, Finland | N61 51 | E24 17 | 10 – 17 March 2006 | Rural continental | Land & airborne (hot-air balloon: 0-2000 m from the ground) |
| 52. Laakso L. et al. 2008 | South Africa | S25 54 | E25 75 | -23 July 2006-23 July 2007 | Rural continental | Land (1424 m ASL) |
| 53. Vakkari et al. 2010 | | | | -20 July 2006-5 Feb 2008 | | |
| 54. Lee et al. 2008 | Tumbarumba, Australia | S35 39 | E148 09 | July 2005 – March 2007 | Continental | Land (at 1.5 m height 1200 m ASL.) and aircraft |
| 55. Lehtipalo et al. 2009 | SMEAR II, Finland | N61 51 | E24 17 | 15 March-26 June 2007, May 2008 | Rural continental | Land (181m ASL) |
| 56. Lihavainen et al. 2007 | Sammaltunturi Finland | N67 58 | E24 07 | 20 October – 9 November 2004 | Rural continental | Land (565 m ASL) |
| 57. Ling et al. 2010 | Australia | - | - | 12 h on day time | 32 Urban sites | At 1 m height |
| 58. Lähde et al. 2009 | Laboratory | - | - | - | Engine exhaust | - |
| 59. Manninen et al. 2009a | SMEAR II, Finland | N61 51 | E24 17 | One year 2006-2007 | Rural continental | Land (181 m ASL) |

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|------------------------------|--|---------|---------|---------------------------|--|------------------|
| 60. Manninen et al. 2009b | SMEAR II, Finland | N61 51 | E24 17 | 6 March-30 June 2007 | Rural continental | Land (181 m ASL) |
| 61. Manninen et al. 2010 | -Pallas, Finland PAL | -N67 58 | -E24 07 | -23.4.2008-7.4.2009 | -high elevation, remote continental | -560 m ASL |
| | -Hyytiälä, Finland HTL | -N61 50 | -E24 18 | -1.3.2008-31.4.2009 | -rural continental, background | -182 m ASL |
| | -Vavihill, Sweden VHL | -N56 01 | -E13 09 | -23.4.2008-25.2.2009 | -rural background, continental | -172 m ASL |
| | -Mace Head. Irland MHD | -N53 19 | -E09 53 | -13.6.2008-7.5.2009 | -marine background, coastal | -5 m ASL |
| | -Cabauw, Netherland CBW | -N51 57 | -E04 53 | -16.4.2008-31.3.2009 | -clean marine/ rural polluted | -0 m ASL |
| | -Melpitz, Germany MPZ | -N51 32 | -E12 54 | -30.4.2008-19.4.2009 | -rural polluted, continental | -87 m ASL |
| | -Hohenpeissen berg, Germany HPB | -N47 48 | -E11 00 | -6.3.2008-26.2.2009 | -high elevation, background | -980 m ASL |
| | -K-Puszta, Hungary KPO | -N46 58 | -E19 35 | -10.3.2008-26.2.2009 | -rural continental, background | -125 m ASL |
| | -Jungfraujoch, Switzerland JFJ | -N46 32 | -E07 57 | -8.4.2008-20.4.2009 | -high altitude, background | -3580 m ASL |
| | -Puy de Dôme, France PDD | -N45 42 | -E03 13 | -2.4.2008-5.5.2009 | -high elevation, background | -1465 m ASL |
| | -San Pietro Capofiume, Italy SPC | -N44 37 | -E11 40 | -12.3.2008- 31.10.2008 | -rural polluted, continental | -11 m ASL |
| | -Finokalia, Greece FKL | -N35 20 | -E25 40 | -3.4.2008-14.4.2009 | -marine background, coastal | -250 m ASL |

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|--|---|---|--|--|-------------------|---|
| 62. Mirme et al. 2009 | over middle and west Europe | - | - | 2 May-24 May 2008 | - | aeroplane, Falcon |
| 63. Misaki 1961b | -Meteorological institute in Tokyo - Shinano-Oiwake Branch Office at Karuizawa | -N35 40 | -E139 46 | In 1960 | -Urban, polluted | - |
| | | - | - | | -Rural | - (1000m ASL) |
| 64. Modini et al. 2009 | Agnes Water, Australia | W151 9 | S24 2 | March/April 2007 | Marine/coastal | Land at 5 m ASL. |
| 65. Nagaraja et al. 2003 | Pune, India | N18 | E74 | Dec 1997-Dec 2000 | Urban/rural | Land at 1 m height (559 m ASL) |
| 66. Nagato et al. 1999 | Boulder, Colorado, US | N40 1 | W105 17 | 10 December 1996 – 3 January 1997 | Urban continental | Land (1770 m ASL) |
| 67. Nieminen et al. 2009 | SMEAR II, Finland | N61 51 | E24 17 | 6 March-30 June 2007 | Rural continental | Land (181 m ASL) |
| 68. Norinder and Siksna 1950 | University of Uppsala, Sweden | - | - | summer of 1949 | Urban | - |
| 69. Pawar et al. 2005, 70. Siingh et al. 2005 | Arabian Sea | a) N16.9 (N15-N17) b) N15.4 (N14.4-N8.3) c) N9.2 (N8.3-N16.9) d) N9.2 (N7.5-N12.5) | a) E71.2 (E69.5-E73.3) b) E72.2 (E71.5-E72.7) c) E74.5 (E76.3-E72.5) d) E74.5 (E71.4-E76.4) | a) June- July 2002 b) July-Aug. 2002 c) March-April 2003 d) May-June 2003 | Marine | On ship (9 m ASL): stationary and cruises |

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|------------------------------|---------------------------------|--------|---------|--------------------------|--------------------|-----------------------------------|
| 71. Reiter 1985 | Garmisch-Partenkirchen, Germany | N47 | E11 | 1973-1978 | Continental | Land (740 m & 1780 m ASL) |
| 72. Retalis et al. 2009 | Athens, Greece | N37 58 | E23 43 | 1968-1984 | Urban | 107 m ASL. |
| 73. Retalis & Pitta 1989 | Athens, Greece | N37 58 | E23 43 | April-May 1896 | Urban | 107 m ASL. |
| 74. Ruuskanen et al. 2007 | Värriö, Finland | N67 46 | E29 35 | 26 April – 11 May 2003 | Rural continental | Land (390 m ASL) |
| 75. Siingh et al. 2007 | Maitri, Antarctica | S70 45 | E11 44 | January – February 2005 | Continental | Land at 0.5 m height (130 m ASL) |
| 76. Sipilä et al. 2008 | SMEAR II, Finland | N61 51 | E24 17 | March – June 2007 | Rural continental | Land |
| 77. Smirnov et al. 1998 | Zigler Island, Arctic | N81 04 | | 5 March – 7 April 1994 | Arctic, marine | Land |
| 78. Suni et al. 2008 | Tumbarumba/ Australia | S35 39 | E148 09 | June 2005-October 2006 | Marine/Continental | Land at 1.5 m height (1200 m ASL) |
| 79. Svenningsson et al. 2008 | Stordalen mire, Abisko, Sweden | N68 35 | E19 05 | July 2005-September 2006 | Rural | Land at 1.7 m height (360 m ASL) |
| 80. Tammet et al. 2006 | SMEAR II Finland | N61 51 | E24 17 | 17-18 August 2005 | Rural continental | At 2 m & 14 m height (181 m ASL) |

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|-------------------------------|---|-------------------------------|-------------------------------|---|-----------------------------------|--|
| 81. Tammet et al. 2009 | -SMEAR II -Tartu -Laboratory | -N61 51 -N58 23 - | -E24 17 -E26 43 - | 20 Mar 2003-27 Dec 2006 2 Apr 2004-27 Dec 2006 | -Rural continental -Urban - | -Land (181 m ASL) -Roof (72 m ASL) - |
| 82. Tiitta et al. 2007 | Kuopio, Finland | N62 53 | E27 38 | 16 June – 2 July 2004 | Urban | Land |
| 83. Vana et al. 2004 | -Värriö and -SMEAR II, Finland; -Tahkuse, Estonia | -N67 46 -N61 51 -N58 31 | -E29 35 -E24 17 -E24 56 | 28 March – 2 May, 2000; 20 March – 16 May 2001; 18 September – 19 November 2001 | Rural continental | Land |
| 84. Vana et al. 2006 | SMEAR II, Finland | N61 51 | E24 17 | 22 March – 9 April 2003 | Rural continental | Land |
| 85. Vana et al. 2006b | Jungfraujoch, Switzerland | N46 32 | E7 59 | 2 Feb – 16 Apr 2005 | Rural continental | 3580 m ASL. |
| 86. Vana et al 2007 | Cruise from Bremerhaven, Germany to Antarctica | - | - | 3 Nov – 9 Dec 2004 | Marine | From bridge at 30 m ASL. |
| 87. Vana et al. 2008 | Mace Head, Ireland | N53 19 | W9 54 | 8 January – 31 December 2006 | Marine | Land |
| 88. Vartiainen et al. 2007 | Railroad Moscow- Vladivostok | | | 4 – 8 October 2005 | Continental | Land (on railway) |
| 89. Venzac et al. 2007 | Puy de Dome, France | N45 46 | E2 57 | 25 February – 31 May 2006 | Continental | Land ca. at 2 m (1465 m ASL) |

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|-------------------------------|-------------------------------------|--------|--------|-----------------------------|-------------------|-------------------|
| 90. Venzac et al. 2008 | Pyramid mountain in Himalaya, Nepal | N27 57 | E86 48 | 25 February – 8 March 2007 | Continental | Land (5079 m ASL) |
| 91. Virkkula et al. 2007 | Aboa, Antarctica | S73 03 | W13 25 | 14 Dec. 2004 – 30 Jan. 2005 | Continental | Land (470 m ASL) |
| 92. Wilding and Harrison 2005 | Weyborne, Norfolk, UK | N52 57 | E1 7 | 11 – 17 May 2004 | Marine | Land |
| 93. Yli-Juuti T. et al. 2009 | K-puszta, Hungary | N46 58 | E19 35 | 22 May-29 June 2006 | Rural continental | Land (125 m ASL) |

Table S2. Radon activity concentration, related ion production rate and total calculated ion-pair production rate reported together with the small ion concentrations: The first column shows the reference number, the second column the site, the third column measured radon activity concentration (disintegrations per second in m^{-3} = Bqm^{-3}), the fourth column the corresponding ionisation rate by radon assuming that 34 eV is needed to brake an electron ion pare, and the fifth column gives the total ionisation rate based on balance equation.

| Reference No. | Site | Radon activity concentration (Bqm^{-3}) | Ionisation rate by radon decay (ion pares $\text{cm}^{-3}\text{s}^{-1}$) | Total calculated ionisation rate (ion pares $\text{cm}^{-3}\text{s}^{-1}$) |
|---------------|---|---|--|---|
| 47. | Hyytiälä, Finland | - | 4.5 (total average) | 2.6 (average) |
| 80. | Hyytiälä, Finland | - | - | 5.6 at 2 m 3.9 at 14 m |
| 29. | Hyytiälä, Finland (at 6 m height) | Median: 1.49 Mean: 1.84 | Median: 0.9 Mean: 1.1 (via external radiation Median: 9.5 Mean: 8.7) | - |
| 34. | Tahkuse, Estonia | 2-25 | 1.2-14.7 | - |
| 42. | Utö, Finland Hyytiälä, Finland Tahkuse, Estonia | | | 1.1-7.1 (Utö) 4.6-9.4 (Hyytiälä) 1.4-4.1 (Tahkuse) |
| 89. | Puy de Dôme, France | 5-30 | 2.9-17.7 | - |
| 90. | Himalaya, Nepal | - | - | 9 |
| 10. | Pune, India (at 1 m height) | - | - | 2-117 |
| 65. | Pune, India (at 1 m height) | Mean: ca. 5-130 | Mean: ca. 2-40 | - |
| 78. | Tumbarumba, Australia | 9-102 | 5.3-60.1 | - |

Table S3. Formation and growth rates of 2-nm particles, and small ion concentrations: The first column on the left hand side shows the reference, the second column shows the number of new particle formation events of positively (Pos), negatively (Neg) charged particles and the whole population (All), the third column gives the formation rate ($J_2^+[\text{ion}]$) and growth rate ($\text{GR}^+[\text{ion}]$) of 2-nm positive ions, the fourth column $J_2^-[\text{ion}]$ and $\text{GR}^-[\text{ion}]$ for the negative 2-nm ions and the fifth column shows the formation by ion-ion recombination and the sixth column shows the total formation rate ($J_2[\text{tot}]$) of 2-nm particles. The seventh and eighth columns show number concentrations of positive (Pos) and negative (Neg) small ions.

| Reference No | NPF Pos / Neg / All | $J_2^+[\text{ion}]$ ($\text{cm}^{-3} \text{s}^{-1}$) / $\text{GR}^+[\text{ion}]$ (nm h^{-1}) | $J_2^-[\text{ion}]$ ($\text{cm}^{-3} \text{s}^{-1}$) / $\text{GR}^-[\text{ion}]$ (nm h^{-1}) | $J_2[\text{ion}]$ ($\text{cm}^{-3} \text{s}^{-1}$) recombination | $J_2[\text{tot}]$ ($\text{cm}^{-3} \text{s}^{-1}$) | Pos concentration (cm^{-3}) | Neg concentration (cm^{-3}) |
|-------------------------------|------------------------|--|--|--|---|--|---|
| 1. results from England | - | - | - | - | - | - | -1000-2500 mean: 1760 ($> 1.08 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$) |
| 3. | - | 3-25 (tot. ion induced) / - | 3-25 (tot. ion induced) / - | - | - | - | -1000-3000 mean: 1820 ($> 0.77 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$) |
| 5. | 4 / 5 / 6 | - | 0,3±0,1 / 1,5 (one day studied) | 0,10±0,04 (one day studied) | 1,3±0,1 (one day studied) | - | - |
| 7. | - | - | - | - | - | 100-1500 ($\geq 0.75 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$) | 200-1500 ($\geq 0.75 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$) |
| 9. | - | - | - | - | - | 200-5000 ($\geq 0.75 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$) | 200-5000 ($\geq 0.75 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$) |
| 14. | - | - | - | - | - | mean: 250 ($> 0.9 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$) | mean: 650 ($> 0.9 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$) |
| 17. | - | - | < 1 (< 40%) (tot. ion induced, $J_{3.5}$, one day studied) | - | - | 0-125 (1.7-2.7 nm) | 0-125 (1.7-2.7 nm) |

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| 19. | - | - | - | - | - | - | - out: median: 248 -in: median: 1180-1250 | -out: median: 208 -in: medians: 938-1090 |
| 20. | 81 | - | - | - | - | - | - | - |
| 21. | 246 | - | - | - | - | - | - | - |
| 23. | - | - | - | - | - | - | 500-2500 (<1.45 nm, pos & neg) | |
| 24. | - | - | - | - | - | max: 200 | max: 200 | |
| 26. | 70 (DMPS) | - / median: < 3 | - / median: < 3 | - | - | 200-1500 mean: 607-889 <td>200-1500 mean: 593-881<br (<1.6="" nm)<="" td=""/><td></td></td> | 200-1500 mean: 593-881 <td></td> | |
| 27. | 226(22%) / 270(26%) / 276 (27%) | - | - | - | - | - | - | |
| 28. | out: 15 in: every day, except one day | - / out: 1.8 - / in: 2.3-4.9 | - / out: 2.3 - / in: 2.8-4.8 | - | - | -out: workday/weekend max: 2452/2417 mean: 627/ 653 median: 590/632 -in: max: 3651/2601 mean: 1019/1396 median: 966/1357 <td>-out: max: 4781/2645 mean: 683/ 720 median: 630/ 696 -in: max: 5987/4075 mean: 1127/1389 median: 1065/1376<br (<1.8="" nm)<="" td=""/><td></td></br></td> | -out: max: 4781/2645 mean: 683/ 720 median: 630/ 696 -in: | |

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|---|---|--|--|---|---|--|---|
| 30. | 4% of the whole period | - | - | - | - | 300-800 | 300-800 |
| 31. | yes | - | - | - | - | mean: 229-309 | mean: 190-272 |
| 32. | 14% of the measurement period | 0.1 | - | - | - | - | - |
| 33. | - | - | - | - | - | 50% range: 210-319 mean: 274 median: 259 max1167 | 50% range: 183-290 mean: 245 median: 231 max: 990 |
| 34. | - | - | - | - | - | 80% range: 150-600 | - |
| 35. | - | - | - | - | - | -110-1180 mean: 530 median: 510 -120-1180 mean: 420 median: 410 | - |
| - During NPF | | | | | | | |
| -During non-NPF | | | | | | | |
| 36. | 19 analyzed Reanalysed by authors | 0.2-0.7 average: 0.2 (J ₁) / - | 0.1 – 0.6 average: 0.2 (J ₁) / - | - | 3-31 average: 13 (J ₁) | geom. mean: 515 in 2004 geom. mean: 544 in 2005 | geom. mean: 454 in 2004 geom. mean: 437 in 2005 |
| 37. | 13 Reanalysed by authors | 0.00-0.48* average: 0.08 (J ₁) | 0.00-0.48* average: 0.08 (J ₁) | - | 45 – 5011 average: 1603(J ₁) | geom. mean: 266 | geom. mean: 209 |
| * Assumption of identical contribution in | | | | | | | |

particle
formation

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|-----|--------------------------------------|-----------------|---------------------------------|---|---------------|--|---|
| 38. | - | - | - | - | - | In laboratory: up to 3e4 Background: mean: 50 ± 17 Motorway: mean: 569 ± 316 City-Road: mean: 309 ± 172 | In laboratory: up to 3e4 Background: mean: 219 ± 97 Motorway: mean: 642 ± 269 City-Road: mean: 294 ± 218 |
| 39. | 229 / 275 (nocturnal) | - | - | - | - | - | - |
| 41. | - | - | - | - | - | 10-400 | - |
| 42. | Utö: 9; Hyytiälä: 13; Tartu: 9 | - | - | - | - | mean: 250 (Utö); mean: 840 (Hyy); mean: 390 (Tah) | mean: 280 (Utö); mean: 770 (Hyy); mean: 280 (Tah) |
| 43. | 20 | - / < 5 | - / <4 | - | - | - | - |
| 45. | 4 | 0.03 – 0.04 / - | 0.02 – 0.07 / - | - | 0.8 – 2.8 / - | - | - |
| 46. | Yes | - | - | - | 0.02-60 | 1-10 (2.5-3 nm) | 1-10 (2.5-3 nm) |
| 48. | yes | - | - | - | - | 200 - 1000 | 200 – 1000 |
| 50. | 34 | - | - | - | - | - | - |
| 51. | 5 | - | order of 10^{-6} / 1 – 1.8 | - | - | 0-65 (1.5-3nm, height dependence) | 0-75 (1.5-3nm, height dependence) |
| 52. | -90 % of days | - | - | - | - | - | - |

| | | | | | | | |
|-----|---|---|---|----------------|---|--|---|
| 53. | -83 % of days | -0.02-1.1 mean: 0.2 median: 0.2 / 1.4-31 mean: 7.5 median: 6.2 | -0.02-0.9 mean: 0.2 median: 0.2 / 1.4-31 mean: 7.5 median: 6.2 | -average: 0.07 | - | median: 660 mean: 830 | median: 800 mean: 960 |
| 54. | on 30% of the nights | - | - | - | - | 2000 (pos. & neg.) | |
| 56. | -clear sky -in cloud | - | - | - | - | -347-1754 mean: 973 -35-485 mean:135 | -418-1978 mean: 1182 -45-595 mean: 175 |
| 57. | a) Parks b) Woodlands c) City center d) Residential e) Freeways | - | - | - | - | a) 50% range: 36-70 median: 50 b) 50% range: 238-336 median: 301 c) 50% range: 68-128 median: 99 d) 50% range: 556-656 median: 601 e) 50% range: 413-564 median: 481 | a)50% range: 212-407 median:219 b)50% range: 337-483 median: 424 c)50% range: 158-327 median: 251 d)50% range: 304-406 median: 361 e)50% range: 518-676 median: 589 |
| 59. | 100 | - | - | - | - | 1-100 (1.8-3 nm) | 1-100 (1.8-3 nm) |

| | | | | | | | |
|------|------------------------|--|---|---|--|---|---|
| 60. | 54 (DMPS) | median from different devices: 0.1-0.9 / - | median from different devices: 0.1-0.12 / median, includes pos. & neg.: 0.58-7.66 | median from different devices: 0.002-0.02 | median from different devices: 0.26-5.24 | - | - |
| 61. | Fraction of events (%) | Medians | Medians | - | Medians | - | - |
| -PAL | -23 | -0.15 / 3.8 | -0.08 / 3.8 | | -1.2 | | |
| -HTL | -24 | -0.05 / 1.6 | -0.06 / 1.6 | | -- | | |
| -VHL | -28 | -0.03 / 2.0 | -0.05 / 2.0 | | -- | | |
| -MHD | -54 | -0.11 / 5.5 | -0.16 / 5.5 | | -11.8 | | |
| -CBW | -35 | -0.10 / 3.8 | -0.12 / 3.8 | | -32.4 | | |
| -MPZ | -58 | -0.10 / 2.6 | -0.10 / 2.6 | | -23.1 | | |
| -HPB | -35 | -0.09 / 4.8 | -0.09 / 4.8 | | -3.0 | | |
| -KPO | -53 | -0.05 / 3.6 | -- / 3.6 | | -- | | |
| -JFJ | -29 | -0.07 / 3.7 | -0.16 / 3.7 | | -0.9 | | |
| -PDD | -34 | -0.14 / 3.5 | -0.06 / 3.5 | | -- | | |
| -SPC | -48 | -0.06 / 1.5 | -0.06 / 1.5 | | -- | | |
| -FKL | -26 | -0.02 / 2.7 | -0.08 / 2.7 | | -- | | |

| | | | | | | | |
|-----|-----------|-------------|-----------|---|----------|---|---|
| 62. | - | - | - | - | - | 50-300 (height dependent) | 20-300 (height dependent) |
| 63. | - | - | - | - | - | -Tokyo: 200-500 -Karuizawa: 100-600 | -Tokyo: 200-650 - |
| 64. | 12 | - / 0.9-1.7 | - / 0.4-6 | - | - | - | - |
| 67. | 54 (DMPS) | - | - | - | 0.001-20 | | |
| 68. | - | - | - | - | - | mean: 1200-1500 max: 3000 | mean: 1200-1500 max: 3000 |
| 69. | | | | | | a) 300-2000 b) 100-800 c) 300-2000 d) 700-3000 | Pos & neg. , daily average |
| 71. | - | - | - | - | - | median:330 at 740 m ASL; median: 275 at 1780 m ASL | median: 75 at 740 m ASL; median: 110 at 1780 m ASL |
| 72. | - | - | - | - | - | mean:188.8 | mean: 151.1 |
| 73. | - | - | - | - | - | Normal level: 200 After radioactive plume: 700 | - |
| 74. | 3 | - / 1 | - / 1 | - | 0.1 | - | - |

| | | | | | | | |
|-----|---|-----------------------|--|---|---|---|--|
| 70. | - | - | - | - | - | stationary/cruise a)mean: 842/935 b)mean: 373/371 c)mean: 895/1106 d)mean: 1515/1308 | - |
| 75. | - | - | - | - | - | daily mean : 200 – 600 | - |
| 76. | - | - | - | - | - | 1200 – 2700 (pos. & neg.) | |
| 77. | - | - | - | - | - | 3 hour averages: 1000-2000 | 3 hour averages: 1000-2000 |
| 78. | on 52% analysed days, on 32 % analysed nights | - / 2.68 | - / 2.89 | - | - | mean: 1700 | mean: 2400 |
| 79. | 44 out of 175 (26%, AIS) / 77 out of 195 (40%, DMPS) | - / 1-40 (1-10 mn) | - / 1-40 (1-10 nm) | - | - | 700-3500 mean: 1650 | 1000-5000 mean: 2380 |
| 80. | - at 2 m height - at 14 m height | - | - | - | - | -630-950 mean: 813 -430-770 mean: 541 | -500-800 mean: 678 -380-550 mean: 462 |
| 82. | - | - | - | - | - | 60 – 720 mean: 280 | 50 – 1000 mean: 320 |
| 83. | 50 (Värriö); 52 (Hyytiälä); 45 (Tahkuse) | - | - / 2.2-5.4 (1.6-20 nm, Tahkuse) | - | - | - | - |

| | | | | | | | |
|-----|--------------|---------------------|-------------------------------|---|--------|---|---|
| 84. | 17 | - / 2-4 (3-5 nm) | - / 2-4 (3-5 nm) | - | 4 - 12 | - | - |
| 85. | - | - | - | - | - | mean: 480 median: 480 | mean: 190 median: 140 |
| 86. | 1 | - | - | - | - | 100-600 max: ca. 800 mean: 320 median: 310 | 100-600 max: ca. 800 mean: 250 median: 230 |
| 87. | 207 | - | - | - | - | max: 2000 median: 384 mean: 423 | max: 2000 median: 403 mean: 440 |
| 88. | 2 | - / 2.4 | - / 2.4 | - | - | 100 – 2000 | 200 – 5000 |
| 89. | 42 | - / 4.5 (1 event) | - / 4.0 (1 event) | - | - | 10-1000 max: ~3000 median: 100 (cloud) median: 400 (clear sky) | 10-1000 max: ~5000 median: 400 (cloud) median: 700 (clear sky) |
| 90. | 11 out of 13 | - / - | - / mean, pos. & neg.: 1.8 | - | - | - | max: 3000 |
| 91. | 11 / 11 / 18 | - / - | - / median: 1.1 | - | - | 95% range: 74-2031 median: 385 | 95% range: 57-2103 median: 524 |
| 92. | - | - | - | - | - | - | 500 – 2500 |
| 93. | 18 / 20 / 26 | - / 1.0-4.6 | - / 1.0-4.6 | - | - | median: 413 (<1.8 nm) | median: 592 |