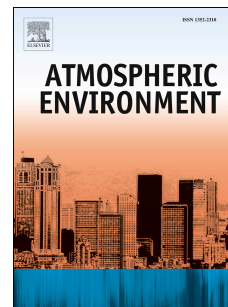


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Comparison of atmospheric new particle formation events in three Central European cities

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1 **Comparison of atmospheric new particle formation events**
2 **in three Central European cities**

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14
15 **Keywords:** urban environment, ultrafine particles, new particle formation, particle number
16 concentration, particle number size distribution, nucleation strength factor

17
18 **Highlights**

- 19 ➤ 2-year long particle number size distribution measurements were performed in the three
20 Central European capital cities of Budapest, Vienna, and Prague
21 ➤ adapted classification scheme for NPF studies in urban environments is presented
22 ➤ coincidence of new particle formation events was evaluated
23 ➤ gas-phase H₂SO₄ proxy showed differences on nucleation and non-nucleation days
24 ➤ particle number concentrations and nucleation strength factors were compared

25 **Abstract**

26 Simultaneous particle number size distribution measurements were performed in the urban
27 environment of Budapest, Vienna, and Prague, three Central European cities located within 450
28 km of each other. The measurement days from the continuous, 2-year long campaign were
29 classified for new particle formation (NPF) events using an adapted classification scheme for

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