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Atmospheric Measurement Techniques Discussions
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Interactive comment on "Laser Ablation ICP-MS of Size-Segregated Atmospheric Particles Collected with a MOUDI Cascade Impactor: A Proof of Concept" *by* Marin S. Robinson et al.

Anonymous Referee #1

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The paper investigates " Laser Ablation ICP-MS of Size-Segregated Atmospheric Particles Collected with a MOUDI Cascade Impactor: A Proof of Concept" The topic of the manuscript is very interesting and not yet investigated in literature to the best of my knowledge. The manuscript is concise and well written and conclusion adequately supported by experimental data. I suggest publication in Atmospheric Measurement techniques journal pending minor revision as noted: The developed method is quite promising for analysis of elemental composition of size-segregated atmospheric particles collected on filters. The authors compared this method with the "wet chemical" ICP-MS. However, a comparison with other techniques from the literature to validate their method is missing. For example, how this technique proofs useful compared

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Discussion paper

with some instruments aimed for online analysis of the elemental composition in single atmospheric particles, such as A-TOF-MS, for instance. A-TOF-MS is also based on laser desorption technique. Furthermore, the authors should better explain what are really the advantages and disadvantages of their method. Therefore, a discussion about atmospheric implications of this method should improve the quality of the manuscript and make it more interesting for the readers. I suggest including a section "Atmospheric implications" How was chosen the NIST standard? I this the best option for this kind of study? On which scientific basis were chosen the 9 elements in this study? On which basis the authors decided to cut the filters? How do we know for sure that the elements are homogenously distributed on the filters? I did not understand why some filters are ablated individually and some spot by spot? How was this decided?

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