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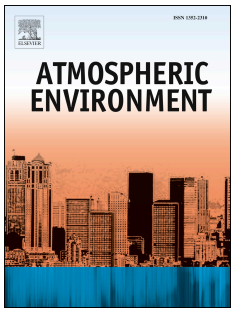

The influence of impactor size cut-off shift caused by hygroscopic growth on particulate matter loading and composition measurements

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The influence of impactor size cut-off shift caused by hygroscopic growth on particulate matter loading and composition measurements

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Highlights:

- Hygroscopic growth leads to a shift in the size of dry particles cut off by impactors used in measurements of particle mass and composition.
- We propose a method for evaluating this influence on analysis of aerosol composition, quantifying its global importance for the first time.
- Observational comparisons and model validation must account for the large temporal and spatial variations in this influence.