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New airtight transfer box for SEM experiments: application to lithium and sodium metals observation and analyses

New airtight transfer box for SEM.

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Highlights

- Additional mechanism is not necessary to open an airtight transfer box inside a scanning electron microscope.
- Conception of universal airtight transfer box for scanning electron microscopy is possible.
- Pristine surfaces of metallic lithium and metallic sodium are observable by scanning electron microscopy via airtight transfer box.
- Even preserved from air, pristine lithium foil has not a pure surface which could influence the electrochemical performances of a lithium metal battery, at least at the first cycle.
- Reacting process is almost achieved at the surface of sodium while it is only at the beginning for lithium when they are exposed to air.

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