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In-situ electron microscopy observation of electrochemical sodium plating and stripping dynamics on carbon nanofiber current collectors

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ABSTRACT

Sodium metal holds promise as the ultimate anode for high-energy-density Na battery systems. Recent progress has been made in terms of rational design of nanostructured 3D current collectors for dendrite-free Na deposition with limited dimensional changes during cycling. However, critical information such as Na nucleation and growth behavior on these hosts remains elusive. Herein, by using amorphous carbon nanofibers (CNF) as a current collector, we present the first nanoscale-resolution observation of electrochemical Na plating/stripping dynamics via *in situ* electron microscopies. With the use of solid electrolyte,

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