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# Computational Evaluation of Na3SbX3 (X =S, Se) for resistive switching memory devices for Neuromorphic Computing applications

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Neuromorphic Computing draws inspiration from the brain. Resistive Random-Access Memory (ReRAM) is gaining attention for its potential use in neuromorphic computing, mimicking neural networks for efficient data processing. Recent advancements introduce innovative materials such as metal oxides (e.g., $HfO_2$, $Ta_2O_5$), perovskites, and 2D materials like graphene, which enhance the scalability, switching speed, and power efficiency of ReRAM devices. In our work, we have explored new chalcogens for ReRAM applications. These materials possess suitable optoelectronic attributes, enable multi-level states and greater synaptic plasticity, making them ideal candidates for future neuromorphic systems that require high-density, low-power, and brain-like information processing.

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