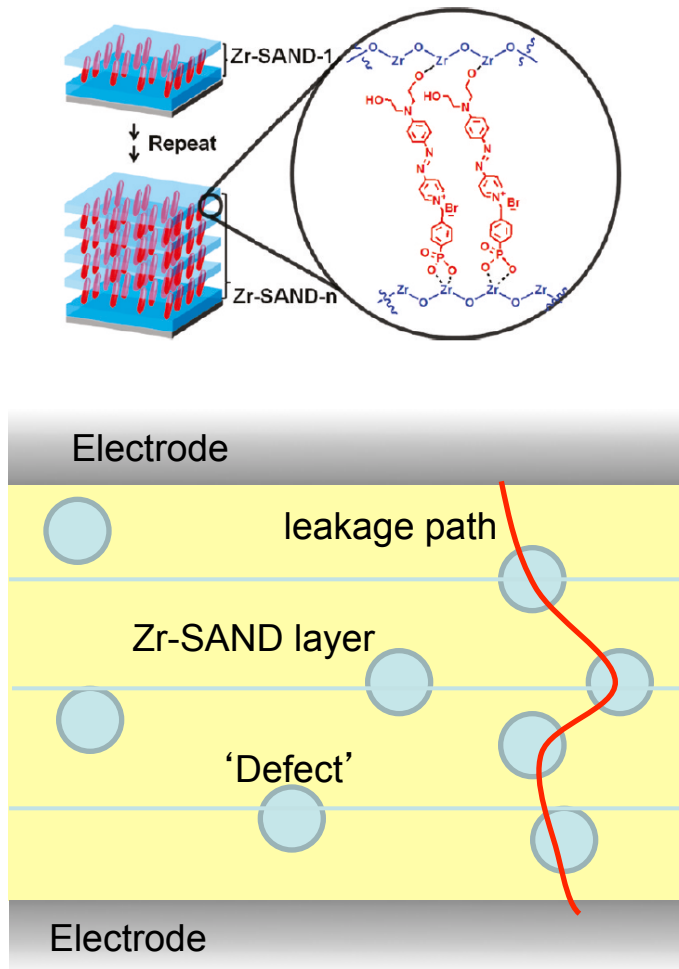




Two Is Not Always Better Than One



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Good dielectrics transfer the electric field without conducting current. Leakage currents in new self-assembled nanodielectrics can be reduced by increasing the number of layers, but the capacitance is reduced. Furthermore, a statistical analysis of dielectric breakdown has shown that multiple layers are less reliable. The current hypothesis is that subsequent processing disturbs the initial layer, creating additional breakdown mechanisms. Optimization of nanodielectrics should therefore focus on improving single layers.

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