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DNA Translocation Dependence on Ionic Solution Concentration in a Solid-State Nanopore Device BRIAN THOMAS, Physics Department University of Arkansas Fayetteville Arkansas 72701, DANIEL FOLOGEA, Physics Department University of Arkansas Fayetteville Arkansas 72701, JIALI LI, Physics Department University of Arkansas Fayetteville, Arkansas 72701 — Our work describes dsDNA translocations through a silicon nitride nanopore subjected to an applied electric field in solutions of different ionic strengths. We demonstrate how the ion concentration affects DNA shielding and, consequently, its effective negative charge. These modifications alter key parameters of the translocation process, such as the dwell time and current drop of the event. In this way, the DNA/salt interaction process can be explored by translocation experiments.

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