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**Translocation Studies of Single Strand-DNA Oligomer Complexes with ds-DNA Markers Using Solid-State Nanopores**[1] VENKAT BALAGURUSAMY, PAUL WEINGER, SUNGCHEOL KIM, XINSHENG SEAN LING, Brown University — We have designed short oligomers of single strand DNA of about 130 bases long each with 12-bases long sticky ends that are complimentary to those on one end of other oligomers to form ds-DNA regions by Watson-Crick base-pairing in these regions. Such a design facilitates the formation of a chain of single strands of DNA with ds-DNA regions interspersed. In order to slow down the translocation speed of these complexes through solid-state nanopores that could enable one to identify the ds-DNA region markers in the blockage current signal during translocation, we have attached these ss-DNA complexes with a polystyrene bead on one end. We present the results of our preliminary studies that show that the signature of these ds-DNA region markers could be identified.

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