

## Dielectric properties of oligonucleotides on the surface of Si nanosandwich structures

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Planar silicon nanostructures that are formed as a very narrow silicon quantum well confined by delta-barriers heavily doped with boron are used to study the dielectric properties of DNA oligonucleotides deposited onto the surface of the nanostructures. The capacitance characteristics of the silicon nanostructures with oligonucleotides deposited onto their surface are determined by recording the local tunneling current-voltage characteristics by means of scanning tunneling microscopy. The results show the possibility of identifying the local dielectric properties of DNA oligonucleotide segments consisting of repeating G-C pairs. These properties apparently give grounds to correlate the segments with polymer molecules exhibiting the properties of multiferroics.

### Acknowledgement

The reported study was partially supported by RFBR, research project No 16-32-00577 mol\_a and FASIE, research project No 10356/2015.