

Abstract Submitted  
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**Electrostatic Origin of Single-Stranded Genome Packing in Viruses** VLADIMIR BELYI, M. MUTHUKUMAR, University of Massachusetts, Amherst — We develop an electrostatic model for single-stranded RNA/DNA viruses that bind their genome via highly basic semiflexible peptide arms. We show that genome-capsid binding is dominated by non-specific electrostatic interactions, rather than actual amino-acid content. Proposed model explains many universal features of the viral genome. Good agreement is found with wide range of qualified wild-type and mutant viruses.

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