Packing of charged chains on toroidal geometries?[1] ZHENWEI
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sequential Langmuir adsorption of a flexible charged polyelectrolyte chain on tori.
In the regime of monomer-monomer electrostatic interaction dominating over thermal fluctuations, it becomes a generalized Thomson problem. Various patterns of
adsorbed chain are found including double spirals, disclination-like structures, Janus
tori and uniform wrappings, arising from the long-range electrostatic interaction and
the toroidal geometry. Their broken mirror symmetry and energetics are analyzed.
In particular, we find a power law for the electrostatic energy; the dependence of the
power on the geometry of tori implies a geometric origin. Furthermore, in the regime
of large thermal fluctuation, we systematically study random walks on tori that generate chain configurations; the features associated with the toroidal geometry are
discussed.

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