

Contribution Title:	SYMMETRY BREAKING IN LAUGHLIN'S STATE ON A CYLINDER
Authors:	S. Jansen, E. H. Lieb, R. Seiler
Presenting author:	Jansen S.
Affiliation:	Princeton University
E-mail:	jansen@princeton.edu
Invited speaker:	Topical session
YRS seminar:	NO

In this talk we present exact results on a many-body wave function proposed by R.B. Laughlin as an approximate ground state for electrons in the fractional quantum Hall effect. When the wave function is adapted to a cylinder geometry, the correlation functions can be expressed in terms of a discrete one-dimensional polymer system, and the normalization satisfies a simple recurrence relation. This allows us to prove that on sufficiently thin cylinders, the state is periodic with respect to translations along the cylinder axis: at filling factor $1/p$, the period is p times the period of the filled Landau level.