

# SPIN CHAINS AND RANDOM MATRIX THEORY

HUW WELLS SUPERVISED BY JONATHAN KEATING AND NOAH LINDEN

## MOTIVATION

The aim is to model  $n$  distinguishable spin-half particles in a ring, each only interacting with their neighbours, figure 1.

A **non-unitary invariant** random matrix ensemble with the potential to model Hamiltonians

$H$   
structure

the group  $U(n, n)$