

Outline of lectures

- Microscopic models on low-dimensional lattices: exact diagonalisations and Lanczos methods – Comparison with other methods
- Dimerized spin chains – Application to CuGe_3
- Spin & doped ladders: a route towards understanding HiTc ?
- Introduction to frustrated quantum magnetism

Tutorials

- ◆ No1 – Getting started: power and Lanczos method for a quantum XY and Heisenberg chain
- ◆ No2 – Chain of correlated fermions: metal-insulator transition and LL exponents
- ◆ No3 – Full diagonalisation: thermodynamic properties – Susceptibility, specific heat, ...
- ◆ No4 – Frustrated Heisenberg chain: deconfinement of soliton (kink) excitations
- ◆ No5 – Simulating a 2 leg-spin ladder