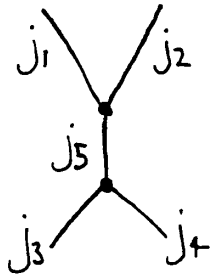
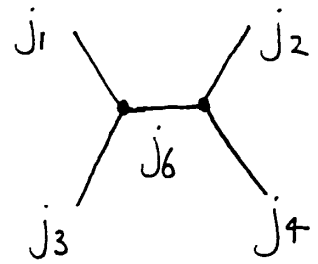


QUANTUM RIEMANNIAN GEOMETRY

& GAUGE THEORY



John Baez 6/18/01



Plan:

1. Why quantum gravity is hard
Constrained systems - classical & quantum
Einstein's equation: the initial value problem
Difficulties & a route to progress
2. Gauge theory on a graph
Spin networks
Gauge theory on a real-analytic manifold
3. Einstein's equation: the new variables
Quantization of area
Noncommutativity of area operators
4. Spin foams