# Eigenstate Explorer v2.0:
# The MidPoint

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Some Scientific Developments

- Ability to correlate information between eigenstates and electron transmission exciting new development
- Can isolate contribution of an individual state, like a standing wave, to the conductance
- Can predict systems with desirable conductance properties
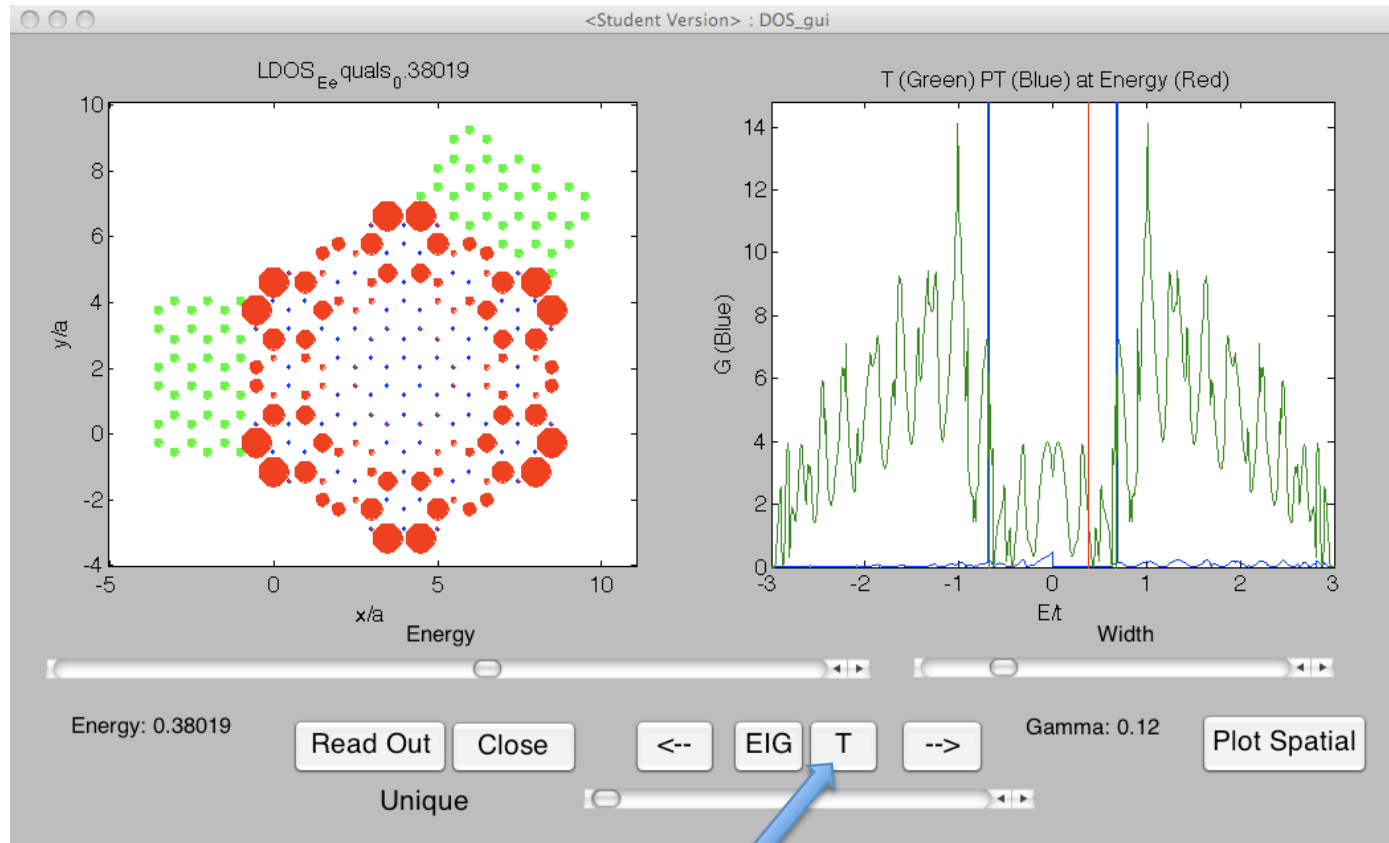
Partial Transmission
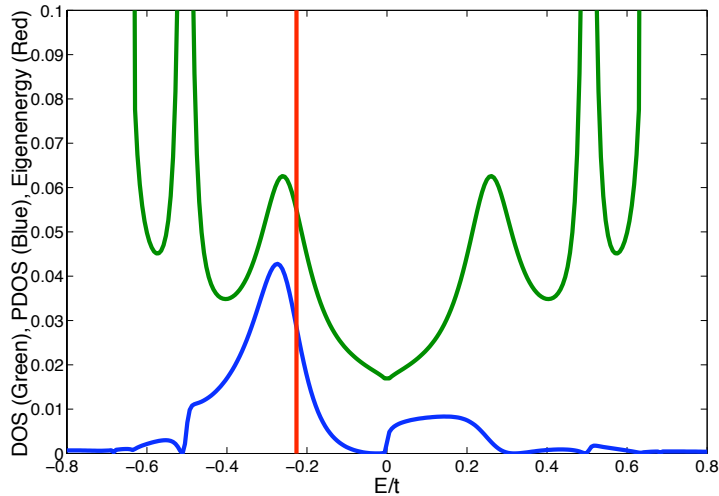
Partial Density of States has been done and gives indication of eigenstate contribution to microscrope measurements
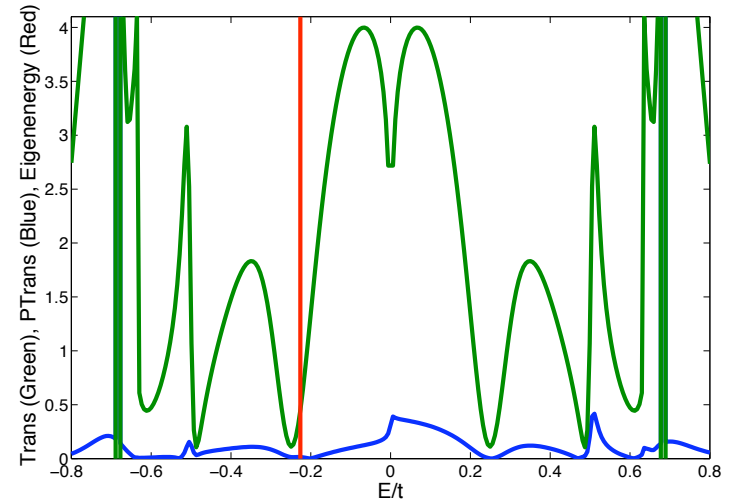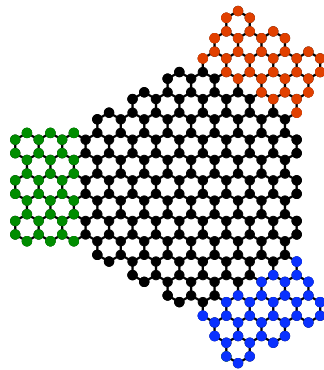
Partial Tramsission is new and gives indication of eigenstate contribution to conductance measurements

Partial Transmission

Transmission button allows you to switch
between DOS and transmission formalism

Eigensubspaces

- The contribution of the eigenstate is a deep phenomenon, but is actually a special case

- For a symmetric system, like a hexagon, with 6 axes of symmetry, adding leads reduces and lifts the symmetry

- Eigenstates become eigenspaces which you can rotate within
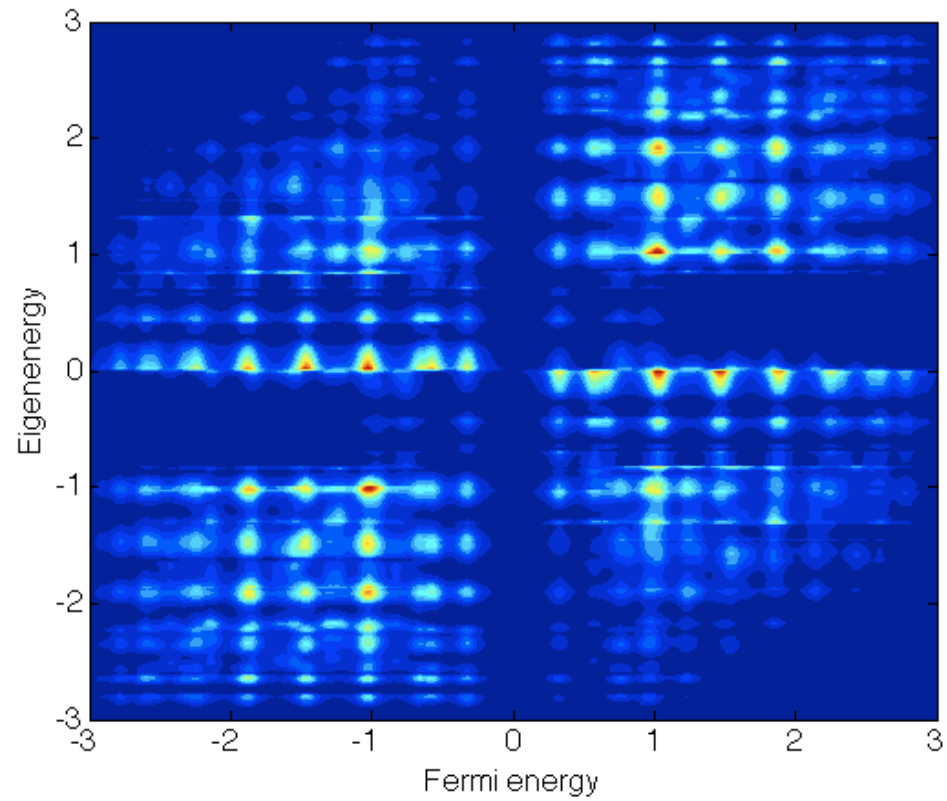
Rotating in Eigenspace

New textfield and slider indicates if an eigenspace is an eigenstate and allows you to rotate between the two principle states

In many cases, the concept of rotation can be literal, but isn't always
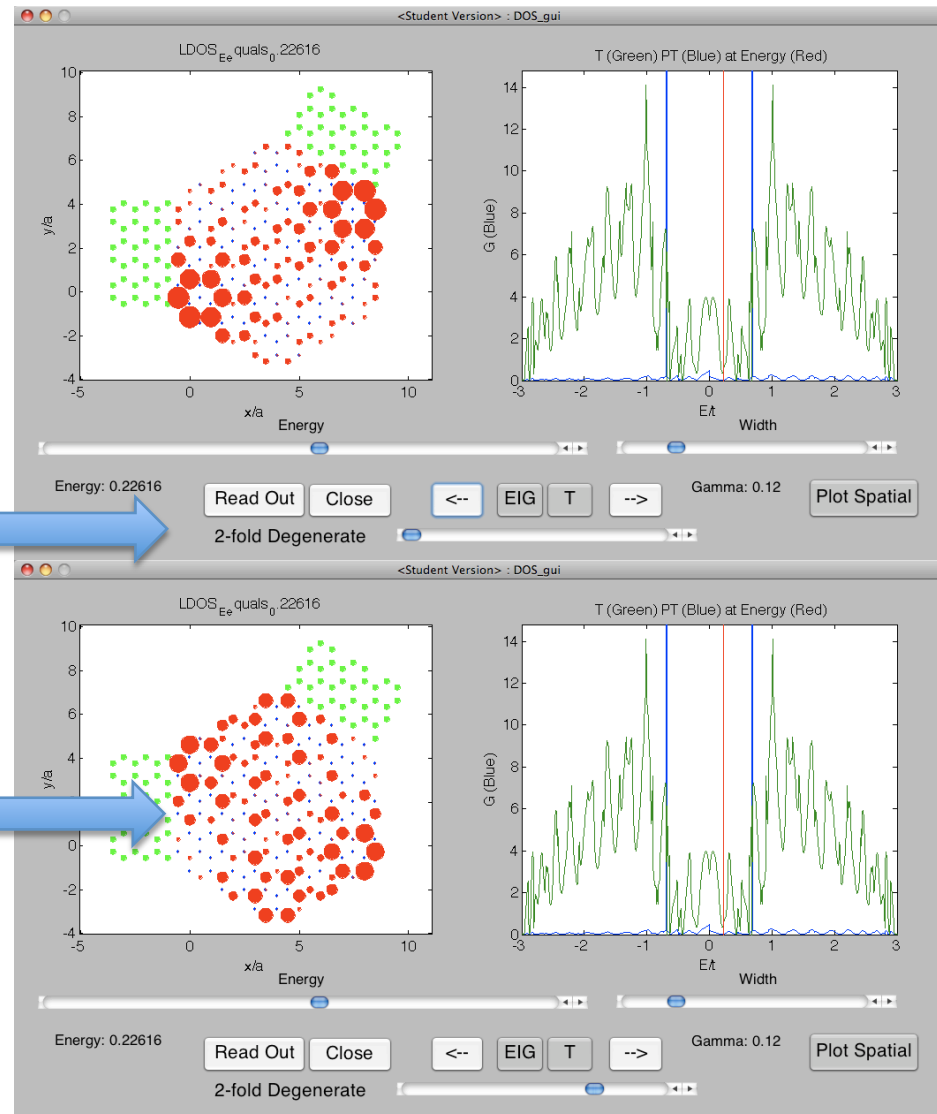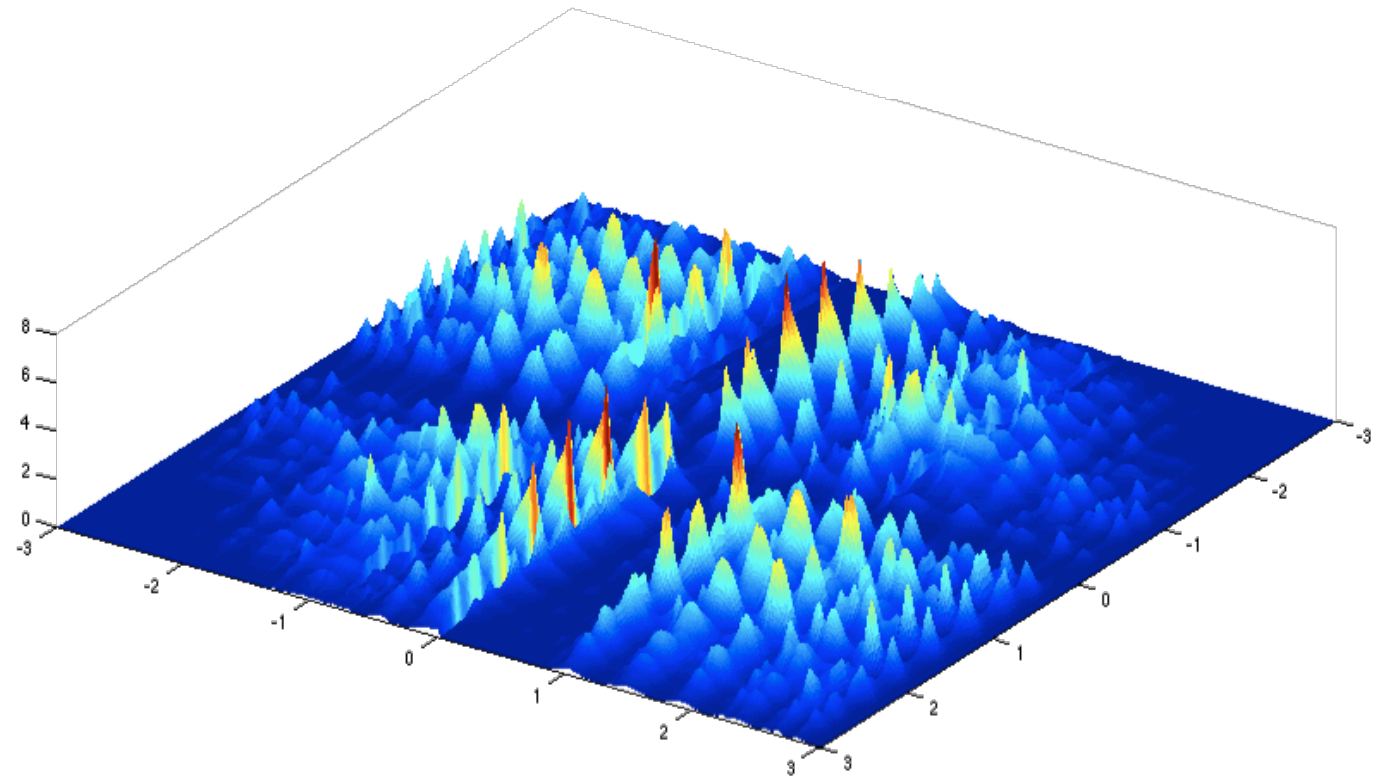
2-D Plots

Energy of the test electron

Weighted superposition of energy of the eigenstates, weighted

3-D Plots

Energy of the test electron

Weighted superposition of energy of the eigenstates, weighted

Where to go from here?

- Still need to optimize and implement scaled multiples of eigenstates in proportion to relative contribution at each energy

- Optimize visualizations via "waterfall" plot – which method produces most visually informative results?

- Self-similarity matrix