

In[1]:= Needs ["SpinDynamica`"]

SpinDynamica version 3.0.1 loaded

ModifyBuiltin: The following built-in routines have been modified in SpinDynamica: {Chop, Dot, Duration, Exp, Expand, ExpandAll, NumericQ, Plus, Power, Simplify, Times, WignerD}. Evaluate ??symbol to generate the additional definitions for symbol.

In[2]:= SetSpinSystem[2]

SetSpinSystem: the spin system has been set to {{1, 1/2}, {2, 1/2}}

SetBasis: the state basis has been set to ZeemanBasis[{{1, 1/2}, {2, 1/2}}, BasisLabels -> Automatic].

In[3]:= SetOperatorBasis[]

SetOperatorBasis: the operator basis has been set to ShiftAndZOperatorBasis[{{1, 1/2}, {2, 1/2}}, Sorted -> CoherenceOrder].

In[4]:= ? CoherenceOrderFiltrationSuperoperator

CoherenceOrderFiltrationSuperoperator[{order1, order2...}] is the superoperator for filtration through a set of coherence orders. CoherenceOrderFiltrationSuperoperator[spins,{order1, order2...}] filters according to the coherence orders of the specified set of spins.

In[5]:= CoherenceOrderFiltrationSuperoperator[2][opI["x"].opI["y"]]

Out[5]= -1/2 i (I1+•I2+)

In[6]:= CoherenceOrderFiltrationSuperoperator[{2, -2}][opI["x"].opI["y"]]

Out[6]= 1/2 i (I1-•I2-) - 1/2 i (I1+•I2+)

In[7]:= SuperoperatorMatrixRepresentation[CoherenceOrderFiltrationSuperoperator[{2, -2}]] // MatrixForm

Out[7]/MatrixForm=

Matrix representation showing a 16x16 matrix with 1 at (1,1) and (16,16), and 0 elsewhere.

