

$$\Gamma[\mathbf{X}_{i_,j_,k_,l_}[\mathbf{S}_, \mathbf{T}_]] := \Gamma\left[\{l, i\}, \{j, k\}, \langle |\xi_i \rightarrow \mathbf{S}, \mathbf{x}_j \rightarrow \mathbf{T}, \mathbf{x}_k \rightarrow \mathbf{S}, \xi_l \rightarrow \mathbf{T}| \rangle, \mathbf{T}^{-1/2}, \text{CF}\left[\{\xi_l, \xi_i\} \cdot \begin{pmatrix} \mathbf{1} & \mathbf{1} & -\mathbf{T} \\ \mathbf{0} & \mathbf{T} & \end{pmatrix} \cdot \{\mathbf{x}_j, \mathbf{x}_k\}\right]\right];$$

$$\Gamma[\bar{\mathbf{X}}_{i_,j_,k_,l_}[\mathbf{S}_, \mathbf{T}_]] := \Gamma\left[\{i, j\}, \{k, l\}, \langle |\xi_i \rightarrow \mathbf{S}, \xi_j \rightarrow \mathbf{T}, \mathbf{x}_k \rightarrow \mathbf{S}, \mathbf{x}_l \rightarrow \mathbf{T}| \rangle, \mathbf{T}^{1/2}, \text{CF}\left[\{\xi_i, \xi_j\} \cdot \begin{pmatrix} \mathbf{T}^{-1} & \mathbf{0} \\ \mathbf{1} - \mathbf{T}^{-1} & \mathbf{1} \end{pmatrix} \cdot \{\mathbf{x}_k, \mathbf{x}_l\}\right]\right];$$

$$\Gamma[\mathbf{X}_{i_,j_,k_,l_}] := \Gamma[\mathbf{X}_{i,j,k,l}[\tau_i, \tau_l]];$$

$$\Gamma[\bar{\mathbf{X}}_{i_,j_,k_,l_}] := \Gamma[\bar{\mathbf{X}}_{i,j,k,l}[\tau_i, \tau_j]];$$