The graph shows the evolution of the second-order correlation function $g^{(2)}(\tau)$ for different states:

- **Blue line**: Coherent state
- **Orange line**: Thermal state
- **Green line**: Fock state

As $\tau$ increases, the correlation function for the coherent state remains constant at $g^{(2)}(\tau) = 1.00$. The thermal state shows a decreasing trend, approaching $g^{(2)}(\tau) = 1.00$ as $\tau$ increases. The Fock state also decreases with $\tau$, converging towards the coherent state's value.