Abstract

This paper defines the union and intersection of multiple sets.

\[ \delta^i_{AB} = \delta^i_A \delta^i_B \]

\[ S_A \bigcup S_B = \bigcup_{i=1}^{n} \{ \epsilon_i \delta^i_{A\cup B} \} \]

\[ U_J S_{A_J} = U_{i=1}^{n} U_{j=1}^{m} \{ \epsilon_i \delta^i_{A=a}^{a=A_{ja} A_{jb}} + \Sigma_{a\neq b} (A_{ja} + A_{jb}) \} \]

\[ S_A \bigcap S_B = \bigcap_{i=1}^{n} \{ \epsilon_i \delta^i_A \delta^i_B \} \]

\[ S_A \bigcap S_B = \bigcap_{i=1}^{n} \{ \epsilon_i \delta^i_{AB} \} \]

\[ \cap_J S_{A_J} = \bigcap_{i=1}^{n} \bigcap_{j=1}^{m} \{ \epsilon_i \delta^i_{\Pi_j A_{j}} \} \]

The top panel is the Hadamard product of a Kronecker term in Einstein notation. The middle panel is the union of two and multiple sets. Lastly, the bottom panel is the intercept of two and multiple sets.