

The diagram illustrates the branching structure of the Lie algebra  $E_6(6)$ . It shows a hierarchy of root systems, starting from the highest weight root system  $E_6(6)$  at the top and branching down into various subalgebras. The nodes are labeled with their corresponding root systems, and the lines represent the branching structure. The diagram is organized into several rows and columns, with labels for each node. The top row shows the highest weight root system  $E_6(6)$  and its immediate descendants. Subsequent rows show further branching into smaller root systems, including  $E_6(5)$ ,  $E_6(4)$ ,  $E_6(3)$ ,  $E_6(2)$ , and  $E_6(1)$ . The diagram illustrates the hierarchical structure of the Lie algebra and its various subalgebras.