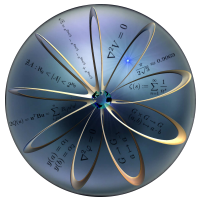

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maximal torus

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Let K be a compact group, and let $t \in K$ be an element whose centralizer has minimal dimension (such elements are dense in K). Let T be the centralizer of t. This subgroup is closed since $T = \varphi^{-1}(t)$ where $\varphi : K \to K$ is the map $k \mapsto ktk^{-1}$, and abelian since it is the intersection of K with the Cartan subgroup of its complexification, and hence a torus, since K (and thus T) is compact. We call T a *maximal torus* of K.

This term is also applied to the corresponding maximal abelian subgroup of a complex semisimple group, which is an algebraic torus.