A Characterization of the Centers of Chordal Graphs.

A graph is chordal if it does not have an induced cycle with length greater than three. The distance $d(x,y)$ is the length of the shortest path from $x$ to $y$. The eccentricity of a vertex $x$ in a graph $G$ is $\epsilon(x) = \max\{d(x,y) | y \in V(G)\}$, and its radius and diameter are defined respectively as $\text{Rad}(G) = \min\{\epsilon(x) | x \in V(G)\}$ and $\text{Diam}(G) = \max\{\epsilon(x) | x \in V(G)\}$.

The graph induced by the set of vertices of $G$ with eccentricity equal to the radius is called the center of $G$. In this talk we will present a short and simple characterization of the centers of chordal graphs. (Received September 16, 2010)