Abstract. In a joint work with Alain Joye, we consider random quantum walks on homogeneous trees of degree $q \geq 3$. Such walks describe the discrete time evolution of a quantum particle with internal degree of freedom in $C^q$ hopping on the neighboring sites of the tree in presence of static disorder. The one time step random unitary evolution operator on the Hilbert space of the particle depends on a unitary matrix $C \in U(q)$ which monitors the strength of the disorder. We prove for any $q$ that there exist distinct open sets of matrices in $U(q)$ for which the random evolution is either pure point almost surely or absolutely continuous, thereby showing the existence of a spectral transition driven by $C \in U(q)$. In this talk, I will concentrate on the case $q = 3$, discussing some properties of the spectral diagram which allows us to describe the spectral transition.