the remark about $\omega_* = 0$ for universal coverings to n-connective coverings. Given an (n-1)-connected space X on which G acts, we say X has an *equivarient n-connected covering* if G lifts to an n-connective covering.

Proposition 13: *An (n-1)-connected* X *on which a connected* G *acts has an equivarient n-connective covering if and only if* $\omega^*(k) = 0$ *where* $k \in H^n(X;\pi_n(X))$ *classifies the n-connective covering*.

Proof: We use Proposition 12 and the fact that if X is n-connected, then

$$H^n(G) \xrightarrow{\omega^*} H^n(X) \xrightarrow{i^*} H^n(X_G)$$

is exact for any coefficients. This fact follows by considering the commutative diagram of spectral sequences arising from the commutative square.

$$\begin{array}{ccc} G & \xrightarrow{\omega} & X \\ \downarrow & & \downarrow \\ E_G & \rightarrow & X_G \\ \downarrow & & \downarrow \\ B_G & \xrightarrow{1} & B_G \end{array}$$

A similar arguement was made in [10, theorem 4] where G was replaced by the space of homotopy equivalences.