Let $R$ be a regular semilocal Dedekind domain containing $1/2$ with fraction field $K$, and $(A, \tau)$ an $R$-Azumaya algebra with involution of the first or second kind. By second kind we mean that $R$ is a quadratic Galois extension of the fix ring of the involution $\tau$. For $\epsilon \in \{\pm 1\}$ there is a exact complex of $\epsilon$-hermitian Witt groups

$$0 \to W_\epsilon(A, \tau) \to W_\epsilon(A_K, \tau_K) \to \bigoplus_{ht P = 1, \tau(P) = P} W_\epsilon(A_{k(P)}, \tau_{k(P)}) \to 0$$

where $k(P)$ is the residue field at the prime $P$ of $R$, and where we have set $(A_{k(P)}, \tau_{k(P)}) := k(P) \otimes_R (A, \tau)$ and $(A_K, \tau_K) := K \otimes_R (A, \tau)$.

This complex is split exact if $R$ is a DVR and $\tau$ of the first kind. As a corollary it implies purity for the hermitian Gersten-Witt complex of an Azumaya algebra with involution over a regular semilocal ring $R$ of dimension two. (Received November 04, 2018)