1075-05-190 **Christopher L Kocs*** (`kocs@math.utah.edu`). *Absolute Galois group computation.*

Given an odd integer n, there exists a surjective group homomorphism ϕ from $\mathrm{Spin}_n(\mathbb{C})$ onto $\mathrm{SO}_n(\mathbb{C})$, such that the following sequence is exact:

$$1 \longrightarrow <\text{-}1> \longrightarrow \mathrm{Spin}_n(\mathbb{C}) \stackrel{\phi}{\longrightarrow} \mathrm{SO}_n(\mathbb{C}) \longrightarrow 1.$$

For any field extension F of $\mathbb{Q}_2$, we construct a homomorphism $\psi : \mathrm{Gal}(\bar{F}, F) \longrightarrow \mathrm{SO}_n(\mathbb{C})$, and we consider when there is homomorphism $h : \mathrm{Gal}(\bar{F}/F) \longrightarrow \mathrm{Spin}_n(\mathbb{C})$ such that the below diagram

$$\begin{array}{ccc} & & \mathrm{Spin}_n(\mathbb{C}C) \\ & \overset{h}{\nearrow} & \big\downarrow \phi \\ \mathrm{Gal}(\bar{F}/F) & \xrightarrow[\psi]{} & \mathrm{SO}_n(\mathbb{C}C) \end{array}$$

commutes. This problem can be rephrased in terms of Clifford algebras and their corresponding quadratic forms. Ultimately, we are lead to compute the Hasse invariants, as a product of gauss sums, associated with these quadratic forms. (Received August 29, 2011)