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Review text:

This paper is suitable for students and researchers with basic knowledge of algebra and group theory. It deals with *degenerate Clifford algebras* $Cl_{p,q,r}$ over n-dimensional vector spaces with symmetric bilinear forms, $n = p + q + r$, $e_k^2 = +1, 1 \leq k \leq p$, $e_k^2 = -1, p+1 \leq k \leq p+q$, $e_k^2 = 0, p+q+1 \leq k \leq n$. Proposition 2.1 states that the following subset of $Cl_{p,q,r}$ is a group under Clifford multiplication

$$S_{p,q,p} = \{s\gamma_1 \ldots \gamma_{p+q}(1+G) \,|\, s \in Spin(p,q), \gamma_i = 1 + e_i \sum_{l=1}^{r} c_{il} f_l, G \in \Lambda(f)\},$$

with $1 \leq i \leq p+q, c_{il} \in \mathbb{R}$, $\Lambda(f)$ the span of all blades formed only with the degenerate vectors $\{f_1 = e_{p+q+1}, \ldots, f_r = e_n\}$. The *degenerate spin groups* are defined as the quotient groups

$$Spin(p,q,r) = S_{p,q,r}/\Delta, \qquad \Delta = \{1 + G \,|\, G \in \Lambda(f)\}.$$

The main theorem states that $Spin(p,q,r) \simeq Spin(p,q) \ltimes_{\tilde{\rho}} \mathbb{M}(p+q,r)$. The isomorphism maps $[s\gamma_1 \ldots \gamma_{p+q}(1+G)] \mapsto (s,(c_{il}))$, $c_{il} \in \mathbb{M}(p+q,r)$, $\mathbb{M}(p+q,r)$ the additive group of $(p+q) \times r$ matrices, $\tilde{\rho} : Spin(p,q) \rightarrow Aut(\mathbb{M}(p+q,r))$, $s \mapsto \tilde{\rho}(s)(A) = \rho(s)A$, $\rho(s)$ the $SO(p,q)$ rotation matrix associated with $s \in Spin(p,q)$, $A \in \mathbb{M}(p+q,r)$. All proofs are done in an elementary step by step manner.