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Christian A Zorn* (czorn@math.ohio-state.edu), 630 Mathematics Tower, 231 West 18th Avenue, Columbus, OH 43235. *Some Explicit Results Regarding Theta Dichotomy for Metaplectic/Orthogonal Dual Pairs.*

Let F be a finite extension of \mathbb{Q}_p with $p \neq 2$, (π, \mathcal{V}_π) a genuine irreducible admissible representation of $\widetilde{\mathrm{Sp}}_n(F)$, and $\mathrm{O}(V_\kappa^\pm)$ the orthogonal groups for the pair of quadratic spaces $(V_\kappa^\pm, Q_\kappa^\pm)$ having dimension $2n + 1$ and discriminant $(-1)^n \kappa$. According to the Theta Dichotomy Conjecture, there exists a non-vanishing local theta lift $\theta_\psi(\pi, V_\kappa^\pm)$ (in the sense of Howe) to precisely one of the two groups $\mathrm{O}(V_\kappa^\pm)$. We discuss the proof of this conjecture. We then specialize to the case that $n = 2$ and (π, \mathcal{V}_π) is an irreducible constituent of the genuine unramified principal series of $\widetilde{\mathrm{Sp}}_2(F)$ to discuss the existence of an irreducible admissible representation $(\pi'_\kappa, \mathcal{V}_{\pi'_\kappa})$ of $\mathrm{SO}_5(F) \simeq \mathrm{PGSp}_2(F)$ for which $\epsilon(\frac{1}{2}, \pi'_\kappa, \psi)$ (from Local Langlands Correspondence for $\mathrm{GSp}_2(F)$) determines which group $\mathrm{O}(V_\kappa^\pm)$ has the non-vanishing theta lift. These results are a partial analogue to some results of Waldspurger regarding the theta dichotomy for $\widetilde{\mathrm{SL}}_2(F)$. (Received March 19, 2010)