1119-11-164 **Joseph A Hundley*** (joseph.hundley@gmail.com), 244 Mathematics Building, University at Buffalo, Buffalo, NY 14260, and **Xin Shen** (shenx125@math.utoronto.ca), Department of Mathematics, University of Toronto, Bahen Centre, 40 St. George St, Room 6290, Toronto, Ontario M5S2E4, Canada. *Multivariable Rankin-Selberg Integral for a product of twisted spinor L functions.*

We consider a new integral representation for $L(s_1, \Pi \times \tau_1)L(s_2, \Pi \times \tau_2)$, where Π is a globally generic cuspidal representation of $GSp4$, and τ_1 and τ_2 are two cuspidal representations of GL_2 having the same central character. As and application, we find a new period condition for two such L functions to have a pole simultaneously. This points to an intriguing connection between a Fourier coefficient of a residual representation on $GSO(12)$ and a theta function on $\widetilde{Sp}(16)$. A similar integral on $GSO(18)$ fails to unfold completely, but in a way that provides further evidence of a connection. (Received February 15, 2016)