

Real hypersurfaces in complex two-plane Grassmannians with Reeb parallel Ricci tensor in the GTW connection

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Abstract. There are several kinds of classification problems for real hypersurfaces in complex two-plane Grassmannians $G_2(\mathbb{C}^{m+2})$. Among them, Suh classified Hopf hypersurfaces M in $G_2(\mathbb{C}^{m+2})$ with Reeb parallel Ricci tensor in Levi-Civita connection. In this paper, we introduce the notion of generalized Tanaka-Webster (in shortly, GTW) Reeb parallel Ricci tensor for Hopf hypersurface M in $G_2(\mathbb{C}^{m+2})$. Next, we give a complete classification of Hopf hypersurfaces in $G_2(\mathbb{C}^{m+2})$ with GTW Reeb parallel Ricci tensor.