Lie derivatives and Ricci tensor on real hypersurfaces in complex two-plane Grassmannians

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Abstract. On a real hypersurface $M$ in a complex two-plane Grassmannian $G_2(\mathbb{C}^{m+2})$ we have the Lie derivation $\mathcal{L}$ and a differential operator of order one associated to the generalized Tanaka-Webster connection $\tilde{\mathcal{L}}^{(k)}$. We give a classification of real hypersurfaces $M$ on $G_2(\mathbb{C}^{m+2})$ satisfying $\tilde{\mathcal{L}}^{(k)}_\xi S = \mathcal{L}_\xi S$, where $\xi$ is the Reeb vector field on $M$ and $S$ the Ricci tensor of $M$. 