

Lie derivative classifications for homogeneous real
hypersurfaces in complex two-plane
Grassmannians

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Abstract: We have considered a new relation between Lie derivatives of symmetric $(1,1)$ -type tensor field T , that is, $(\widehat{\mathcal{L}}_X^{(k)}T)Y = (\mathbf{L}_X T)Y$, for real hypersurfaces M in complex two-plane Grassmannians $G_2(\mathbb{C}^{m+2})$. By using a new method of simultaneous diagonalization for commuting symmetric operators, we give a complete classification for real hypersurfaces M in $G_2(\mathbb{C}^{m+2})$ with above condition.