

**SEMI-PARALLEL SYMMETRIC OPERATORS FOR REAL
HYPERSURFACES IN COMPLEX TWO-PLANE
GRASSMANNIANS**

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ABSTRACT. In this talk, we introduce new notions of semi-parallel shape operators and structure Jacobi operators in complex two-plane Grassmannians $G_2(\mathbb{C}^{m+2})$. By using such a semi-parallel condition, we give a complete classification of Hopf hypersurfaces in $G_2(\mathbb{C}^{m+2})$.

REFERENCES

- [1] D. V. Alekseevskii, *Compact quaternion spaces*, Func. Anal. Appl. **2** (1966), 106-114.
- [2] J. Berndt and Y.J. Suh, *Real hypersurfaces in complex two-plane Grassmannians*, Monatsh. Math. **127** (1999), 1-14.
- [3] J. Berndt and Y.J. Suh, *Isometric flows on real hypersurfaces in complex two-plane Grassmannians*, Monatsh. Math. **137** (2002), 87-98.
- [4] J.T. Cho and M. Kimura, *Curvature of Hopf hypersurfaces in a complex space form*, Results Math. **61** (2012), no. 1-2, 127-135.
- [5] I. Jeong, H. Lee, and Y.J. Suh, *Real hypersurfaces in complex two-plane Grassmannians with \mathcal{Q}^\perp -parallel shape operator*, Results Math. (2013) (in press).
- [6] H. Lee, Y.S. Choi, and C. Woo, *Hopf hypersurfaces in complex two-plane Grassmannians with Reeb parallel shape operator*, Bull. Malaysian Math. Soc. (2014) (in press).
- [7] H. Lee, S. Kim, and Y.J. Suh, *Real hypersurfaces in complex two-plane Grassmannians with certain commuting condition II*, Czechoslovak Math. J. (2014) (in press).
- [8] H. Lee and Y.J. Suh, *Real hypersurfaces of Type B in complex two-plane Grassmannians related to the Reeb vector*, Bull. Korean Math. Soc. **47** (2010), no. 3, 551-561.

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