

Hypersurfaces in complex sphere and quaternionic Kähler geometry

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Previously we obtained a construction of Hopf hypersurfaces M^{2n-1} in complex projective space $\mathbb{C}P^n$ by using twistor space of complex 2-plane Grassmannian $G_2(\mathbb{C}^{n+1})$ with respect to quaternionic Kähler structure [2, 3, 4], which is considered as a generalization of results for hypersurfaces in real space forms using normal line congruences and Gauss map [1, 6]. In this talk, we discuss similar results about complex and real hypersurfaces in complex sphere $\mathbb{C}S^n$ [7], which is a model space of complex Riemannian geometry introduced by LeBrun [5].

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