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On Homogeneous Hypersurfaces in Complex Grassmannians

We consider a class of real hypersurfaces of the Grassmann manifold of k -planes in \mathbb{C}^n , $G_k(\mathbb{C}^n)$, for $k > 2$. Namely the family of tubes around $G_k(\mathbb{C}^m)$ with $m < n$ and around the quaternionic Grassmann manifold of $k/2$ -quaternionic planes in $\mathbb{H}^{n/2}$, $G_{k/2}(\mathbb{H}^{n/2})$, when k and n are even. We determine which of those tubes are homogeneous and for them we find the spectral decomposition of the shape operator. As a consequence we show that they are Hopf hypersurfaces.