

# 3-dimensional minimal CR submanifolds of the sphere $\mathbf{S}^6$ contained in a hyperplane

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It is well known that sphere  $\mathbf{S}^6$  admits an almost complex structure  $J$  constructed using Cayley algebra, which is nearly Kaehler. Let  $M$  be a Riemannian submanifold of the manifold  $\widetilde{M}$  with an almost complex structure  $J$ .  $M$  is a CR submanifold if there exists a  $C^\infty$ -differentiable holomorphic distribution  $\Delta \subset T(M)$  (i.e.,  $J\Delta = \Delta$ ) such that its orthogonal complement  $\Delta^\perp$  in  $T(M)$  is totally real ( $J\Delta^\perp \subseteq N(M)$ ), where  $N(M)$  is the normal bundle over  $M$  in  $\widetilde{M}$ .

We study 3-dimensional minimal CR submanifolds  $M$  of the nearly Kaehler 6-sphere  $\mathbf{S}^6$  which are also contained in a hyperplane, i.e. in some 5-dimensional totally geodesic sphere  $\mathbf{S}^5$ . We classify such submanifolds in terms of connection coefficients and construct some explicit examples of such submanifolds.

This talk is based on joint research with Luc Vrancken.