# Hypersurfaces of quaternionic projective space of Chen type 2

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In a curvature-adapted hypersurface $M$ of a quaternionic-Kähler manifold $\overline{M}$ the maximal quaternionic subbundle $\mathcal{D}$ of $TM$ and its orthogonal complement $\mathcal{D}^\perp$ in $TM$ are, by definition, invariant subspaces of the shape operator $A$ at each point. We classify curvature-adapted real hypersurfaces $M$ of the quaternionic projective space $\mathbb{H}P^m$ that are of Chen 2-type in an appropriately defined Euclidean space of quaternion-Hermitian matrices. That means that the position vector of such submanifold in this ambient Euclidean space of matrices is decomposable into a sum of a constant vector and two nonconstant vector eigenfunctions of the Laplace operator of the submanifold, belonging to different eigenspaces. In the quaternionic projective space they include all geodesic hyperspheres except one, two series of tubes about canonically embedded quaternionic projective spaces of lower dimensions and two particular tubes about canonically embedded $\mathbb{C}P^m \subset \mathbb{H}P^m$, which turn out to have certain extremal property with respect to stability. Except for these two tubes, other tubes about $\mathbb{C}P^m$ are mass-symmetric and of 3-type.