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Ivko M Dimitric* (ivko@psu.edu), Penn State University Fayette, 1 University Dr., Uniontown, PA 15401. *Curvature-adapted hypersurfaces of 2-type in quaternion space forms.*

In a curvature-adapted hypersurface M of a quaternion-Kähler manifold the maximal quaternionic subbundle in TM and its orthogonal complement are invariant subspaces of the shape operator at each point. We classify curvature-adapted hypersurfaces M of non-flat quaternion space forms $\mathbb{H}P^m$ and $\mathbb{H}H^m$ that are of Chen 2-type in an appropriately defined (pseudo) Euclidean space of quaternion-Hermitian matrices. This means that the position vector of M in that matrix space is built from vector eigenfunctions of the Laplacian belonging to two different eigenspaces. In the quaternion projective space they include all geodesic hyperspheres except one (which is of 1-type), two series of tubes about canonically embedded $\mathbb{H}P^k \subset \mathbb{H}P^m$, $1 \leq k < m$, and two particular tubes about canonically embedded $\mathbb{C}P^m \subset \mathbb{H}P^m$, whereas in $\mathbb{H}H^m$ the list is reduced to geodesic spheres and tubes of arbitrary radius about totally geodesic quaternionic hyperplane $\mathbb{H}H^{m-1}$. (Received September 22, 2009)