1143-53-260 **Ivko M Dimitric*** (ivko@psu.edu), 2201 University Dr, PSU-Fayette, Lemont Furnace, PA 15456, and **Mirjana Djoric**. *A study of CR-submanifolds of Chen-type two in complex space forms.* Preliminary report.

We undertake a study of CR-submanifolds of non-flat complex space forms $\mathbb{C}Q^m(4c)$, $c = \pm 1$, which are of Chen 2-type via the standard embeddings by projectors. This means that the position vector of such submanifolds via these embeddings can be written as the sum of two vector eigenfunctions of the Laplacian (up to a translation). We characterize totally real submanifolds of 2-type which are assumed to be mass-symmetric or minimal as well as Lagrangian submanifolds with parallel mean curvature vector. We also prove some non-existence results for certain families of CR-submanifolds of complex space forms. For example, there exist no holomorphic submanifolds of the complex hyperbolic space which are of 2-type. We further show that there exist no ruled hypersurfaces in $\mathbb{C}Q(4c)$ of Chen-type two and comment on possible further research in this direction. (Received August 15, 2018)