

1077-53-2899

Ivko M Dimitric* (ivko@psu.edu), Mathematics Dept., Penn State University Fayette, 1 University Drive, Uniontown, PA 15401-0519. *The Chen-type of some isoparametric hypersurfaces in the unit sphere.* Preliminary report.

According to B. Y. Chen, an isometric immersion $x : M^n \rightarrow E^N$ of a Riemannian n -manifold M^n into a Euclidean space is said to be of fine type (Chen-type k) if the position vector x can be decomposed into a sum of a constant vector x_0 , contributing to the translation of a submanifold, and a finite number (k) of vector eigenfunctions of the Laplacian on M^n from k different eigenspaces. We examine Chen-type of isoparametric hypersurfaces in sphere with three principal curvatures and some with four, via the second standard immersion of the unit sphere. For example, it is known that all minimal isoparametric hypersurfaces with three principal curvatures in the unit sphere are mass-symmetric and of 3-type. (Received September 22, 2011)