报告题目：Recent progress on the Chern conjecture for isoparametric hypersurfaces in spheres

报告人：彦文娇（北京师范大学）

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报告摘要：In this talk, we will first recall some background and research history of Chern's conjecture, which asserts that a closed, minimally immersed hypersurface of the unit sphere $S^{n+1}(1)$ with constant scalar curvature is isoparametric. Next, we introduce our progress in this conjecture. We proved that for a closed hypersurface $M_n \subset S^{n+1}(1)$ with constant mean curvature and constant non-negative scalar curvature, if $\text{tr}(A_k)$ are constants ($k = 3,...,n-1$) for shape operator $A$, then $M$ is isoparametric, which generalizes the theorem of de Almeida and Brito in their 1990's paper in 《Duke Math. J. 》 for $n = 3$ to any dimension $n$, strongly supporting Chern’s conjecture. This talk is based on two joint papers with Professor Dongyi Wei and Professor Zizhou Tang.