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## The multi-dimensional Morse-Smale index

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50 years ago, S. Smale raised the question of how to expand the classical Morse Index Theorem, which dealt with geodesics, to a corresponding theorem dealing with minimal varieties. He himself and J. Simons gave their partial answers under somewhat restricted assumptions. Since then, symplectic functional analysis and spectral theory of elliptic boundary value problems have developed. Therefore, in this talk I shall argue for a new comprehensive study of the multidimensional Morse-Smale index, based on an evolving transparent transition from symplectic functional analysis, via spectral geometry to Morse theory of variational objects in Riemannian and semi-Riemannian spaces. This is joint work with C. Zhu (Tianjin). It is inspired by recent papers by J. Deng and C. Jones, and A. Portaluri and N. Waterstraat