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Alim Sukhtayev* (alim@math.tamu.edu), Department of Mathematics, Mailstop 3368, Texas A&M University, College Station, TX 77843-3368, and **Graham Cox**, **Christopher Jones** and **Yuri Latushkin**. *On Morse and Maslov indices for multidimensional elliptic problems.*

In this talk we discuss some recent results on connections between the Maslov and the Morse indices for differential operators. The Morse index is a spectral quantity defined as the number of negative eigenvalues counting multiplicities while the Maslov index is a geometric characteristic defined as the signed number of intersections of a path in the space of Lagrangian planes with the train of a given plane. The problem of relating these two quantities is rooted in Sturm's Theory and has a long history going back to the classical work by Arnold, Bott, Duistermaat, Smale, and to a more recent paper by Deng and Jones. We will address the case of the Schroedinger operator acting on a family of multidimensional domains obtained by shrinking a star-shaped domain to a point and equipped with either Dirichlet or quite general Robbin boundary conditions. This is a joint work with G. Cox, C. Jones, Y. Latushkin. (Received February 08, 2014)