NODAL COUNTS FOR THE ROBIN PROBLEM ON LIPSCHITZ DOMAINS

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We consider the Courant-sharp eigenvalues of the Laplacian (with boundary conditions) on Euclidean domains. That is, the eigenvalues that have a corresponding eigenfunction which achieves the maximum number of nodal domains given by Courant's theorem. We will first give an overview of previous results for the Courant-sharp Dirichlet, Neumann and Robin eigenvalues of the Laplacian. In particular, Pleijel's theorem and upper bounds for the number of Courant-sharp eigenvalues. We will then present recent joint work with Asma Hassannezhad, Corentin Léna, and David Sher which extends previous results in various directions.