

Mihai N. Pascu: On a conjecture of Laugesen and Morpurgo.

Abstract: A well-known conjecture of R. Laugesen and C. Morpurgo asserts that the diagonal element of the Neumann heat kernel of the unit disk is a radially increasing function. In this talk, we use probabilistic arguments to settle this conjecture. As an application, we obtain a new proof of the Hot Spots conjecture of J. Rauch in the case of the unit disk and we present some extensions.