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**MATĚJ TUŠEK**, Czech Technical University in Prague

*Location of hot spots in thin curved strips*

The celebrated (hot spots) conjecture of Rauch's from 1974 states that any eigenfunction corresponding to the second eigenvalue of the Neumann Laplacian attains its extrema at boundary points only. After reviewing both positive and negative results obtained so far, I show that the maxima and minima of Neumann eigenfunctions of thin tubular neighbourhoods of curves on surfaces are located in terms of the maxima and minima of Neumann eigenfunctions of the underlying curves. In particular, this proves the conjecture for a new class of domains. The talk is based on a joint work with D. Krejčířík.