# Morse index and uniqueness of positive solutions of the Lane-Emden problem

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We present a Morse index computation for positive solution of the classical Lane-Emden problem in planar domains, obtained via an accurate asymptotic analysis of the solutions as the exponent tends to infinity. When the domain in convex this result allows to prove uniqueness of positive solutions (for large values of the exponent), giving a first positive general answer to a longstanding conjecture raised by Dancer [JDE, 1979]. The results are obtained in collaboration with M. Grossi, I. Ianni and F. Pacella.