Nonexistence results for biharmonic problems with supercritical growth on *h-starlike* domains

Seminar presented by Professor Saïma Khenissy
from University of Manouba in Tunisia
on Thursday May 04, 2023 at the Cuny Graduate Center

In 1995, Donato Passaseo proved that, for bounded domains Ω homotopic to spheres, the only solution to the problem

$$-\Delta u = f(u) \quad \text{in } \Omega \quad \text{and} \quad u=0 \quad \text{on } \partial\Omega$$

is u≡0, when the source term f(u) is a nonlinearity having a supercritical growth. We prove this result with respect to the biharmonic operator Δ^2 in both cases of Dirichlet and Navier boundary conditions. We generalize Passaseo's Domains to a more general class of domains we call *h-starlike domains.* As for Passaseo, our main tool is the Pohozaev identity. Currently, we generalize these results to the p-Laplace equation.