On the extreme value of the Nehari manifold method for a class of Schrödinger equations with indefinite weight functions

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Abstract. In this lecture we are concerned with the following class of equations

$$-\Delta_p u - \lambda h(x)|u|^{p-2}u = f(x)|u|^{\gamma-2}u, \quad \text{in } \mathbb{R}^N,$$

involving indefinite weight functions. The existence of solution may depend on the parameter λ. We analyze the extreme value λ^* and we study its relation with the Nehari manifold. Our goal is to establish the existence of two solutions when $\lambda > \lambda^*$.