

# Biharmonic Equation and an Improved Hardy Inequality

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摘要 An improved Hardy inequality will be proven in the

present work. Using the improved Hardy inequality and variational

techniques, we also discuss the existence of nontrivial solution

for following the weighted eigenvalue problem:

$$\begin{cases} \Delta^2 u - \mu \frac{u}{|x|^4} = \lambda u f(x), & \text{in } \Omega, \\ u = \frac{\partial u}{\partial \nu} = 0, & \text{on } \partial\Omega \end{cases}$$

关键词 [Biharmonic equation, Hardy inequality, nontrivial solution](#)

分类号

**Abstract**

**Key words**

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