短文

# 采样系统的提升法H$_\infty$ 设计：条件和局限性

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摘要

The initial motivation of the lifting technique is to solve the H$_\infty$ control problems.

However, the conventional weighted H$_\infty$ design does not meet the conditions required by lifting, so the result often leads to a misjudgement of the design. Two conditions required by using the lifting technique are presented based on the basic formulae of the lifting. It is pointed out that only the H$_\infty$ disturbance attenuation problem with no weighting functions can meet these conditions, hence, the application of the lifting technique is quite limited.

关键词　　Sampled-data control system　lifting technique　design limitation　H∞synthesis

分类号

# H$_\infty$ Design for Sampled-Data Systems via Lifting Technique: Conditions and Limitation

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**Abstract**

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However, the conventional weighted H$_\infty$ design does not meet the conditions required by lifting, so the result often leads to a misjudgement of the design. Two conditions required by using the lifting technique are presented based on the basic formulae of the lifting. It is pointed out that only the H$_\infty$ disturbance attenuation problem with no weighting functions can meet these conditions, hence, the application of the lifting technique is quite limited.

**Key words**　Sampled-data control system　lifting technique　design limitation H∞synthesis

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