# Article information:

将将 MINLP 问题松弛为 LP 问题的一种方法：McCormick包络【McCormick\_envelopes】\_捌椒的博客-CSDN博客  
<https://blog.csdn.net/qq_40926887/article/details/114789742>

# Article summary:

1. McCormick envelope is a convex relaxation for bilinear nonlinear programming problems, used to solve mixed integer nonlinear programming problems by relaxing the MINLP problem to a convex NLP problem.

2. The McCormick envelope provides an envelope that minimizes the size of the feasible region while maintaining convexity, making lower bound solutions obtained using these envelopes closer to the true solution than those obtained using other convex relaxation methods.

3. By introducing convexity into the problem, a global minimum is created, which can be used as a lower bound for the original problem to be solved. Using the McCormick envelope allows the solution to be found using fewer branch and boundary iterations, thus reducing computation time.

# Article rating:

Appears strongly imbalanced: The article is written in a biased or one-sided way, and the information it provides is not trustworthy enough to be considered a reliable source. You should consult other sources to find reliable information on the presented issues.

# Article analysis:

该文章介绍了McCormick包络作为一种将MINLP问题松弛为LP问题的方法。然而，该文章存在以下几个问题：

1. 片面报道：该文章只介绍了McCormick包络的优点，如提供更紧密的下界、减少计算时间等，但没有提及其缺点或潜在风险。例如，使用McCormick包络可能会导致过度松弛问题，从而得到不够精确的解。

2. 缺失考虑点：该文章没有讨论如何选择合适的上下界估计值以获得更好的结果。此外，它也没有探讨如何处理非线性约束条件或高维问题。

3. 偏袒：该文章没有提供其他替代方法或与其他方法进行比较。它似乎暗示McCormick包络是解决所有非线性问题的最佳方法。

4. 未探索反驳：该文章没有探讨任何可能反驳McCormick包络有效性或适用性的观点。这使得读者难以评估其可靠性和适用性。

5. 宣传内容：该文章似乎旨在宣传McCormick包络，并且缺乏客观分析和批判性思考。

因此，需要更全面地评估McCormick包络及其适用性，并将其与其他方法进行比较，以便读者可以做出明智的决策。

# Topics for further research:

* Limitations of McCormick envelopes
* Choosing appropriate bounds for McCormick envelopes
* Handling nonlinear constraints with McCormick envelopes
* Criticisms of McCormick envelopes
* Comparison of McCormick envelopes with other methods
* Objective analysis of McCormick envelopes

# Report location:

<https://www.fullpicture.app/item/7d2caac0b33cf60ac0bd8c83ebd56528>