# Article information:

High-rate iron sulfide and sulfur-coupled autotrophic denitrification system: Nutrients removal performance and microbial characterization - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0043135423000544?via%3Dihub=>

# Article summary:

1. Iron sulfides-based autotrophic denitrification (IAD) is a promising technology for nitrate and phosphate removal from low carbon-to-nitrogen ratio wastewater due to its cost-effectiveness and low sludge production.

2. A co-electron-donor iron sulfur autotrophic denitrification (ISAD) biofilter was constructed and operated at as short as 1 hour hydraulic retention time (HRT), achieving a nitrate removal rate of 960 mg/L/d.

3. The interactions between FeS and S0 in the ISAD system accelerated the denitrification process and maintained the acidity-alkalinity balance, while enriched nitrate-dependent iron-oxidizing bacteria, sulfur-oxidizing bacteria, and dissimilatory nitrate reduction to ammonia bacteria supported stable nitrate reduction.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章主要介绍了一种新型的铁硫自养反硝化系统，其可以高效地去除废水中的氮和磷。然而，该文章存在以下几个问题：

1. 偏袒：该文章只介绍了该技术的优点，没有提及其潜在的缺陷或风险。例如，文章没有探讨可能会产生的副产品或对环境造成的影响。

2. 片面报道：该文章只关注了技术本身的性能表现，而忽略了实际应用中可能遇到的问题。例如，该技术是否适用于不同类型的污水处理厂？是否需要特殊条件才能实现最佳效果？

3. 缺失考虑点：该文章没有考虑到其他可能影响技术性能的因素。例如，污水处理厂运营成本、设备维护和更新等方面。

4. 未探索反驳：该文章没有探讨其他学者对这种技术的看法或提出任何反驳意见。

5. 宣传内容：该文章似乎更像是一篇宣传文稿，而非客观分析报告。它强调了技术优势，并试图说服读者采用这种新型技术。

总之，尽管该文章提供了有关铁硫自养反硝化系统的有用信息，但它存在一些偏见和不足之处。读者应该保持批判性思维，对这种技术进行更全面的评估。

# Topics for further research:

* Potential drawbacks or risks of the technology
* Practical application challenges and limitations
* Other factors that may affect technology performance
* Alternative perspectives or criticisms from other scholars
* Objective analysis rather than promotional content
* Comprehensive evaluation of the technology

# Report location:

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