# Article information:

A Novel Active Inductor with Almost Simultaneously Constant L and Peak Q at Different Frequencies and Independent Q Tunability | IEEE Conference Publication | IEEE Xplore
<https://ieeexplore.ieee.org/document/9651674>

# Article summary:

1. A novel Active Inductor (AI) is presented that its inductance values L and the peak values of quality factor Q can be kept almost constant at different frequencies.

2. The external voltage tuning terminal of the positive transconductor in the feedback loop of positive and negative transconductors building block is configured to compensate for the variation of inductance with frequency.

3. The variable capacitance in the RC feedback network is employed to tune the Q factor without affecting the inductance value, thus the independent tuning of the Q with respect to the inductance value is realized.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “A Novel Active Inductor with Almost Simultaneously Constant L and Peak Q at Different Frequencies and Independent Q Tunability” provides a detailed description of a novel active inductor (AI) that can maintain its inductance values L and peak quality factor Q almost constant at different frequencies, as well as independently tune its Q factor without affecting its inductance value. The article appears to be reliable and trustworthy, as it provides a comprehensive overview of the AI’s design, implementation, and performance verification using TSMC 0.18ȝm CMOS process. Furthermore, it cites relevant literature on passive spiral inductors (PSIs), active inductors (AIs), and other related topics throughout its text, which adds credibility to its claims.

However, there are some potential biases present in this article that should be noted. For example, while it does provide an overview of PSIs and AIs in general, it does not explore any counterarguments or alternative solutions that may exist for these components or their applications. Additionally, while it does cite relevant literature throughout its text, it does not provide any evidence for some of its claims or assertions regarding AI performance or design considerations; this could lead readers to draw incorrect conclusions about certain aspects of AI design or implementation based on unsupported claims made by the authors.

In conclusion, while this article appears to be reliable overall due to its comprehensive overview of AI design considerations and performance verification results using TSMC 0.18ȝm CMOS process, there are some potential biases present that should be noted when evaluating this source material for research purposes.

# Topics for further research:

* Active inductor design considerations
* Alternative solutions for active inductors
* Quality factor tunability of active inductors
* Performance verification of active inductors
* Counterarguments for active inductors
* CMOS process for active inductors

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