# Article information:

Remote Sensing | Free Full-Text | A Simple Algorithm for Deriving an NDVI-Based Index Compatible between GEO and LEO Sensors: Capabilities and Limitations in Japan  
<https://www.mdpi.com/2072-4292/12/15/2417>

# Article summary:

1. GEO and LEO satellite sensors can complement each other in monitoring terrestrial vegetation, but there is a mismatch between their observation data due to differences in viewing geometries and spectral response functions.

2. An algorithm has been developed to obtain NDVI-based indices that are less influenced by these factors, allowing for more accurate inter-sensor translations of vegetation indices.

3. The algorithm was evaluated using off-nadir GEO observation data from the Himawari 8 AHI and near-nadir LEO observation data from the Aqua MODIS as a reference over land surfaces in Japan at middle latitudes, showing good agreement between the NDVI-based indices of the sensors.

# 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:

该文章旨在探讨如何开发一种算法，以获得与植被覆盖度等价的参数（基于归一化植被指数（NDVI）和端元光谱计算的FVC），以便将地球同步轨道卫星（GEO）和低地球轨道（LEO）卫星的观测数据相互补充。然而，该文章存在以下问题：

1. 偏见来源：该文章没有提及其他可能影响GEO和LEO传感器之间一致性的因素，例如大气校正、地表反射率变化等。

2. 片面报道：该文章只关注了日本中纬度地区的情况，并未考虑其他地区可能存在的不同情况。

3. 无根据主张：该文章声称开发的算法可以消除传感器之间的偏差，但并未提供足够证据支持这一主张。

4. 缺失考虑点：该文章没有考虑到NDVI本身存在的局限性，例如对土壤湿度、土壤类型等因素敏感。

5. 所提出主张缺失证据：该文章没有提供足够证据支持使用NDVI-based index作为参数进行传感器之间转换时的有效性。

6. 未探索反驳：该文章没有探讨其他学者对该算法的反驳和质疑。

7. 宣传内容：该文章过于强调GEO卫星的优势，而未充分探讨GEO和LEO卫星之间的差异和限制。

综上所述，该文章存在一些偏见和不足之处，需要更全面地考虑各种因素，并提供更充分的证据支持其主张。

# Topics for further research:

* Atmospheric correction
* Regional differences
* Limitations of NDVI
* Validity of NDVI-based index
* Criticisms and challenges to the algorithm
* Differences and limitations between GEO and LEO satellites

# Report location:

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