# Article information:

[1411.3677] The Far-Infrared-Radio Correlation in MS0451-03
<https://arxiv.org/abs/1411.3677>

# Article summary:

1. The study analyzes star-forming galaxies in the MS0451.6-0305 cluster to understand the evolution of the far-infrared-radio relationship in distant rich clusters.

2. Total infrared luminosities were derived for a sample of cluster and field galaxies using Spitzer MIPS 24 μm photometry, while radio flux densities were measured from Very Large Array 1.4 GHz radio continuum observations.

3. The study finds that the ratio of far-infrared to radio luminosity in an intermediate redshift cluster is consistent with previous findings, but a higher percentage of galaxies in this cluster show an excess in their radio fluxes compared to low redshift clusters, suggesting a cluster enhancement of radio-excess sources at this earlier epoch.

# 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:

The article titled "The Far-Infrared-Radio Correlation in MS0451-03" presents a multi-wavelength analysis of star-forming galaxies in the cluster MS0451.6-0305 at a redshift of approximately 0.54. The authors aim to investigate the evolution of the far-infrared-radio relationship in distant rich clusters.

One potential bias in this article is the limited scope of the study. The analysis is based on a single cluster, which may not be representative of all distant rich clusters. This limitation should be acknowledged and discussed to provide a more comprehensive understanding of the topic.

Additionally, the article lacks a clear explanation of the methodology used to derive total infrared luminosities and measure radio flux densities. Without this information, it is difficult to assess the reliability and accuracy of the results presented.

The authors claim that there is no observable change in the far-infrared to radio luminosity ratio with redshift or environment due to a large intrinsic dispersion. However, they do not provide evidence or statistical analysis to support this claim. It would be beneficial for them to include further analysis or discussion on why they believe there is no change in this ratio.

Furthermore, the article mentions that a higher percentage of galaxies in this cluster show an excess in their radio fluxes compared to low redshift clusters, suggesting a cluster enhancement of radio-excess sources at an earlier epoch. However, no explanation or hypothesis is provided for this observation. It would be valuable for the authors to explore possible explanations or consider alternative interpretations for this finding.

The article also states that the far-infrared-radio relationship for blue galaxies is consistent with the predicted value from field relationships but does not elaborate on what these predicted values are or how they were determined. Providing more information on these predictions would strengthen their argument and allow readers to better understand their findings.

Overall, while the article presents interesting findings regarding the far-infrared-radio correlation in MS0451-03, it lacks in-depth analysis, supporting evidence, and consideration of alternative explanations. The limited scope of the study and lack of methodology explanation also contribute to potential biases and limitations.

# Topics for further research:

* Far-infrared-radio correlation in distant rich clusters
* Methodology for deriving total infrared luminosities and measuring radio flux densities
* Statistical analysis of the far-infrared to radio luminosity ratio with redshift and environment
* Possible explanations for the higher percentage of galaxies showing radio flux excess in MS045
* 6-0305
* Predicted values and determination of the far-infrared-radio relationship for blue galaxies
* Evolution of the far-infrared-radio relationship in distant rich clusters

# Report location:

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