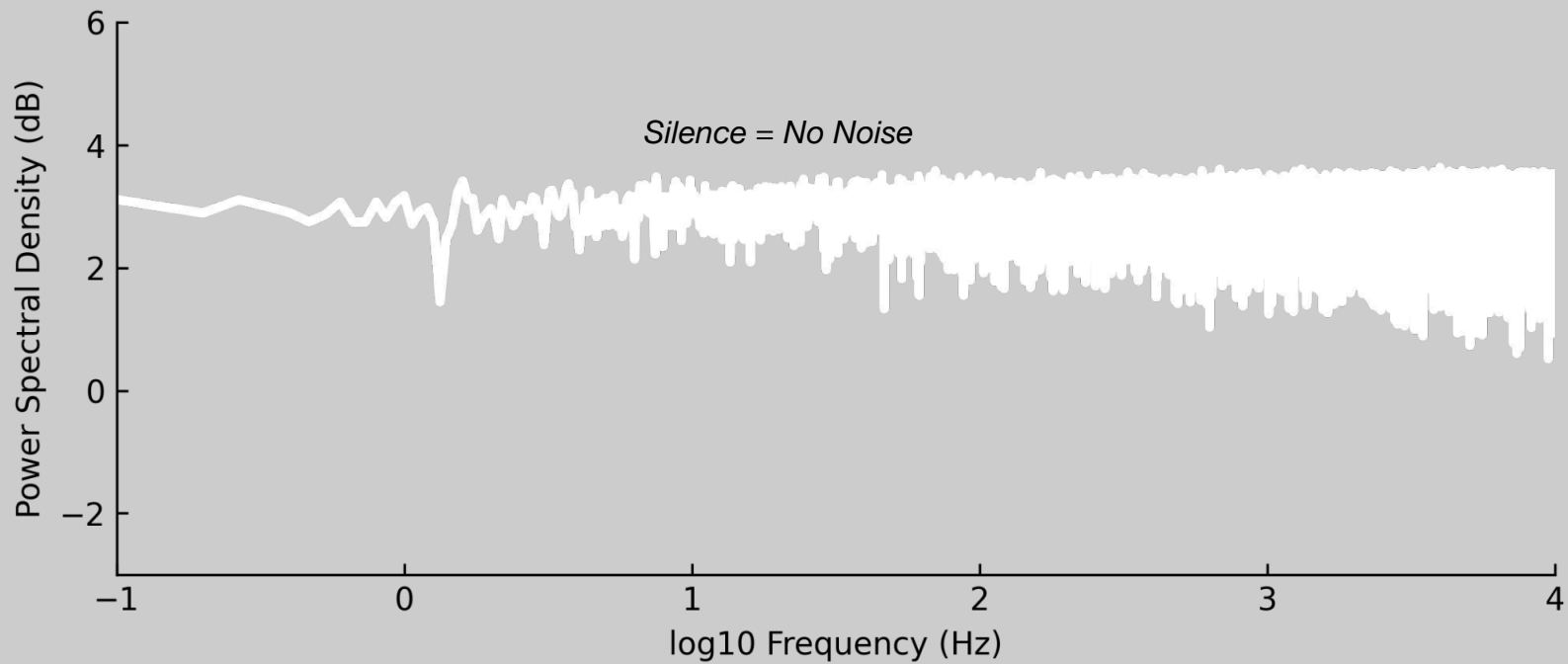


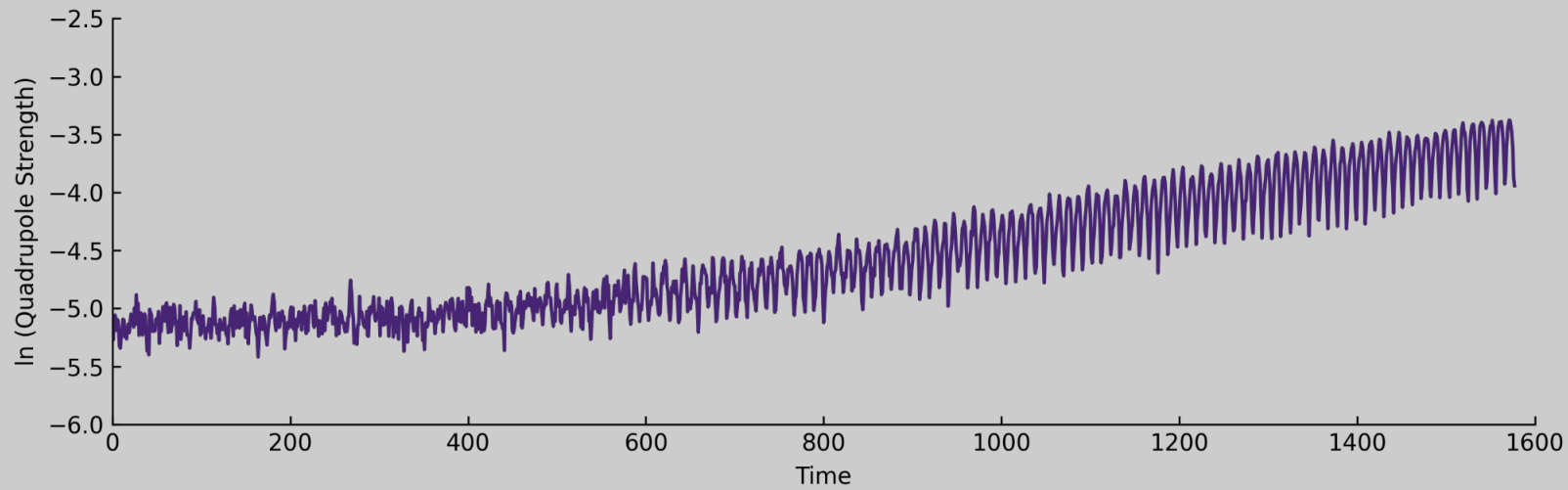
# The Sound of Silence

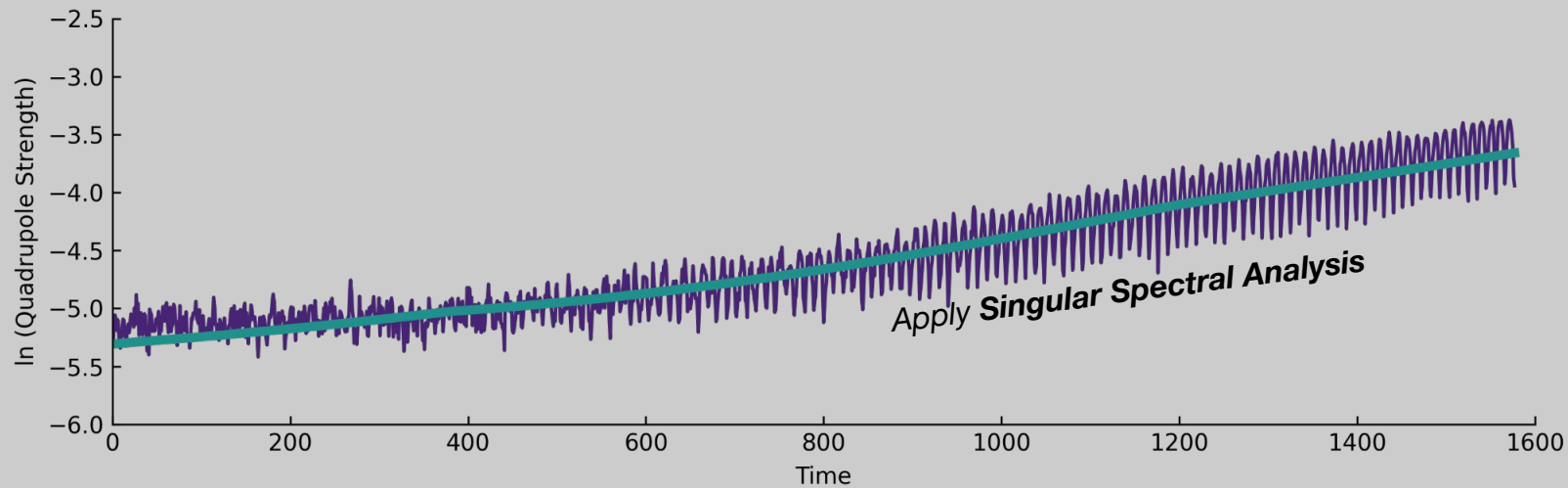
*Stobie*

*Mike Petersen*

*2 June 2023*







# Dynamical data mining captures disc–halo couplings that structure galaxies

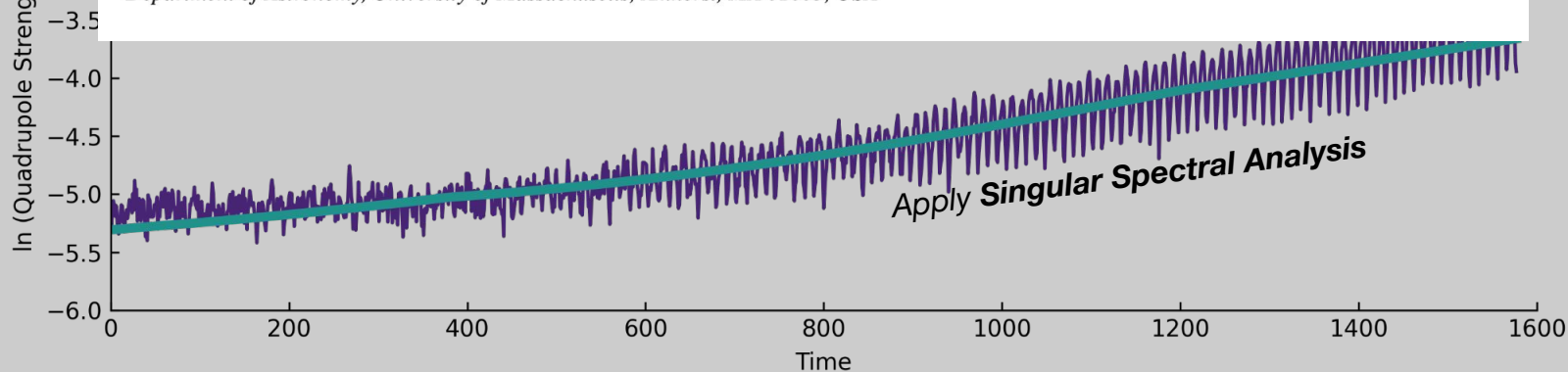
Alexander C. Johnson,<sup>1</sup> Michael S. Petersen<sup>2</sup>,<sup>★</sup> Kathryn V. Johnston<sup>1,3</sup> and Martin D. Weinberg<sup>4</sup>

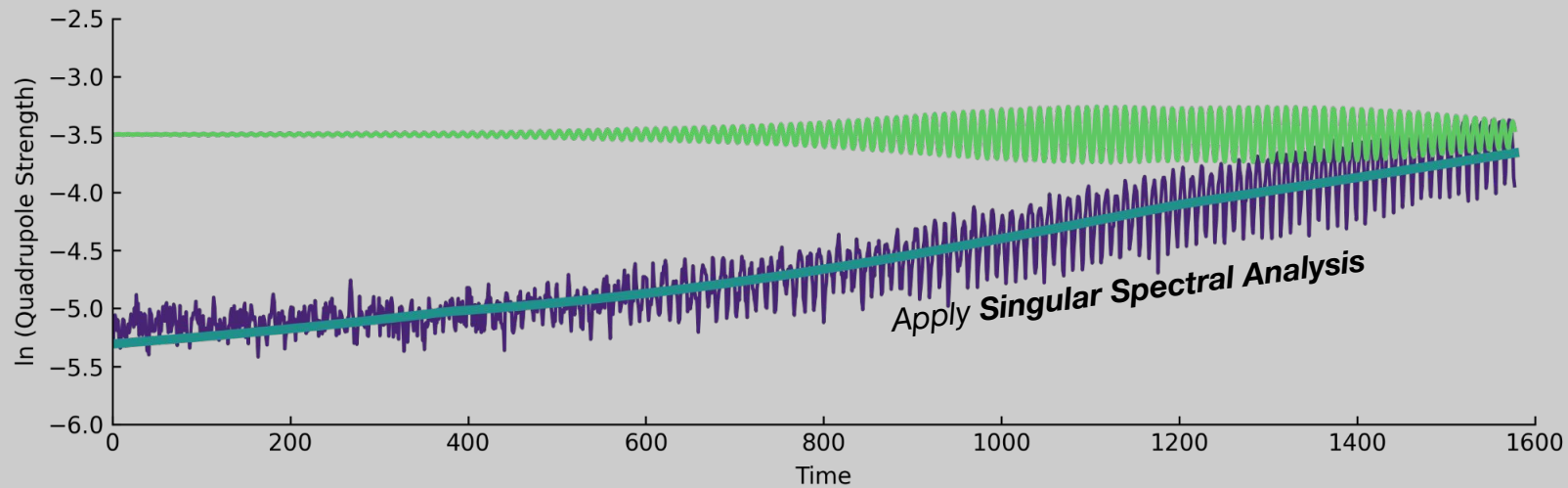
<sup>1</sup>Department of Astronomy, Columbia University, 550 West 120th Street, New York, NY 10027, USA

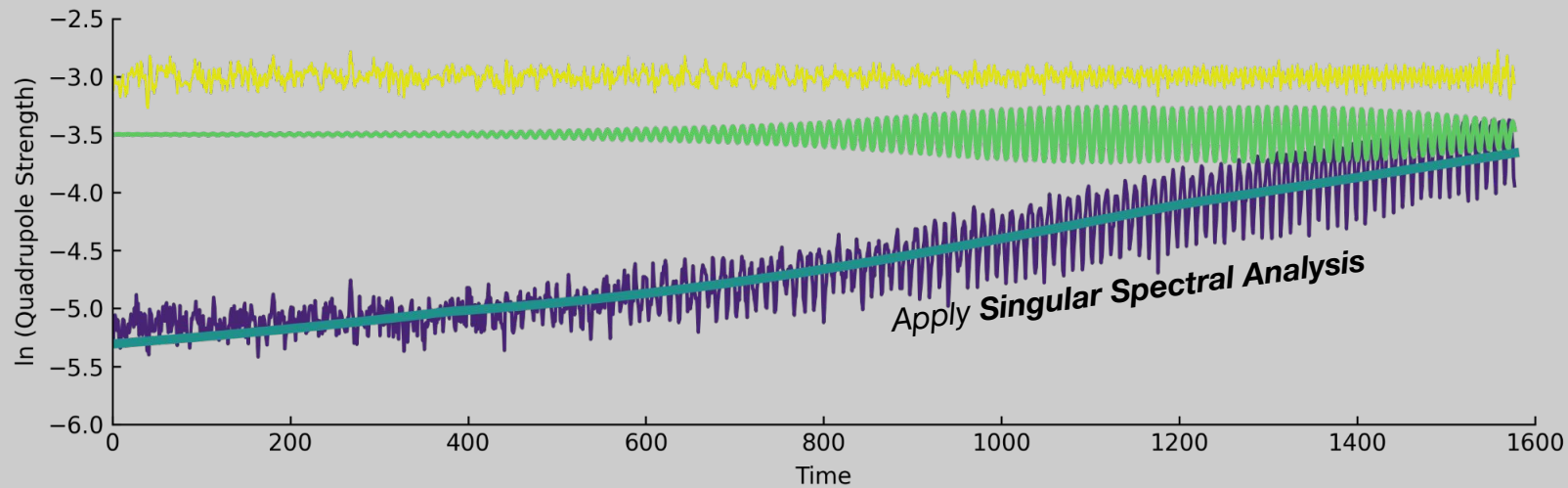
<sup>2</sup>Institute for Astronomy, University of Edinburgh, Royal Observatory, Blackford Hill, Edinburgh EH9 3HJ, UK

<sup>3</sup>Center for Computational Astrophysics, Flatiron Institute, 162 5th Av., New York City, NY 10010, USA

<sup>4</sup>Department of Astronomy, University of Massachusetts, Amherst, MA 01003, USA

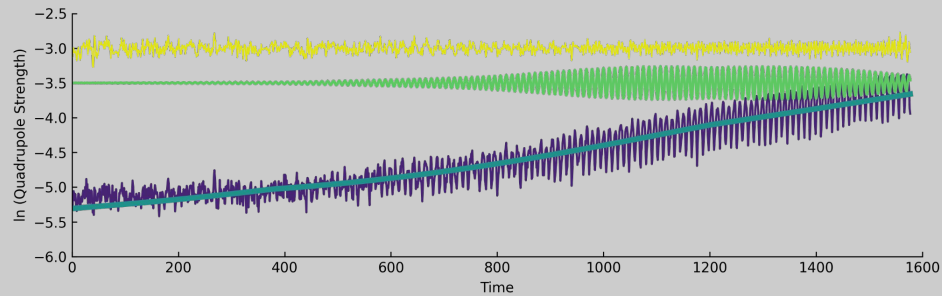






Power Spectral Density

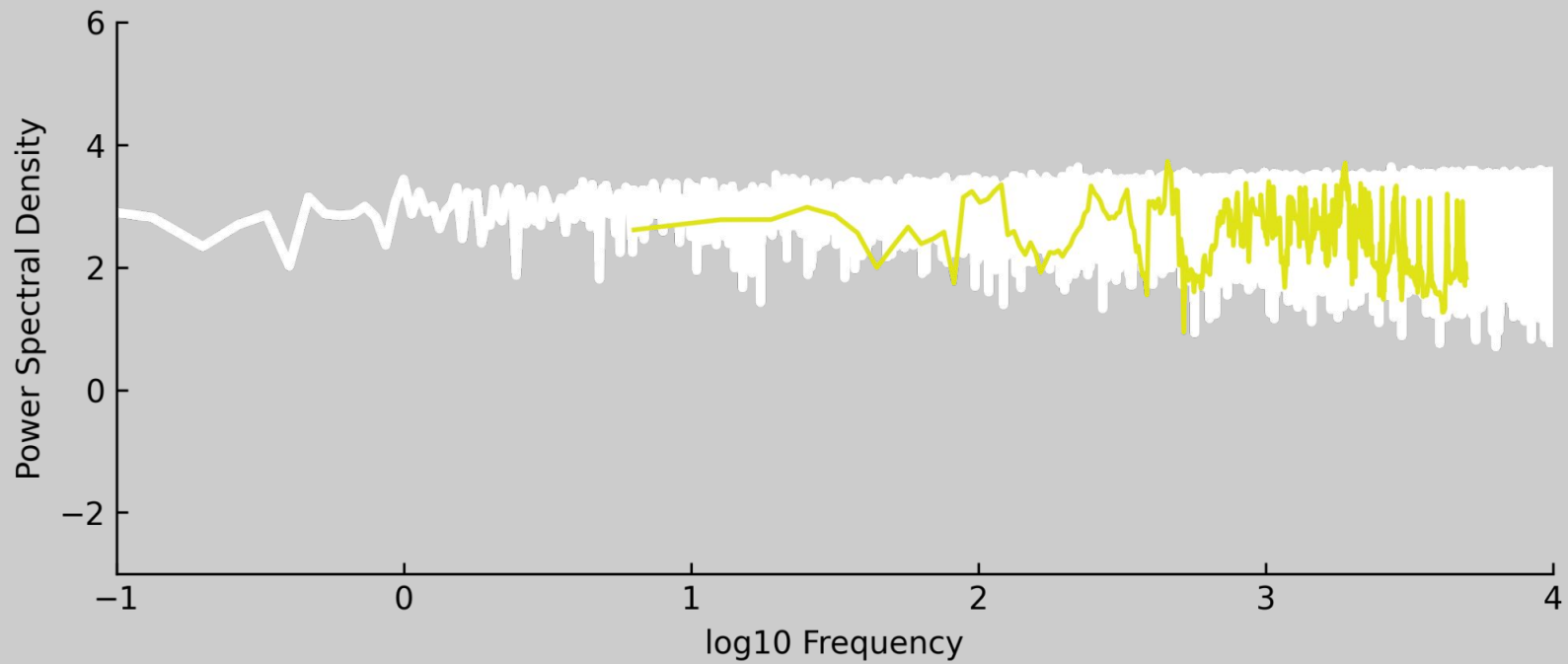
6  
4  
2  
0  
-2  
-4  
-6

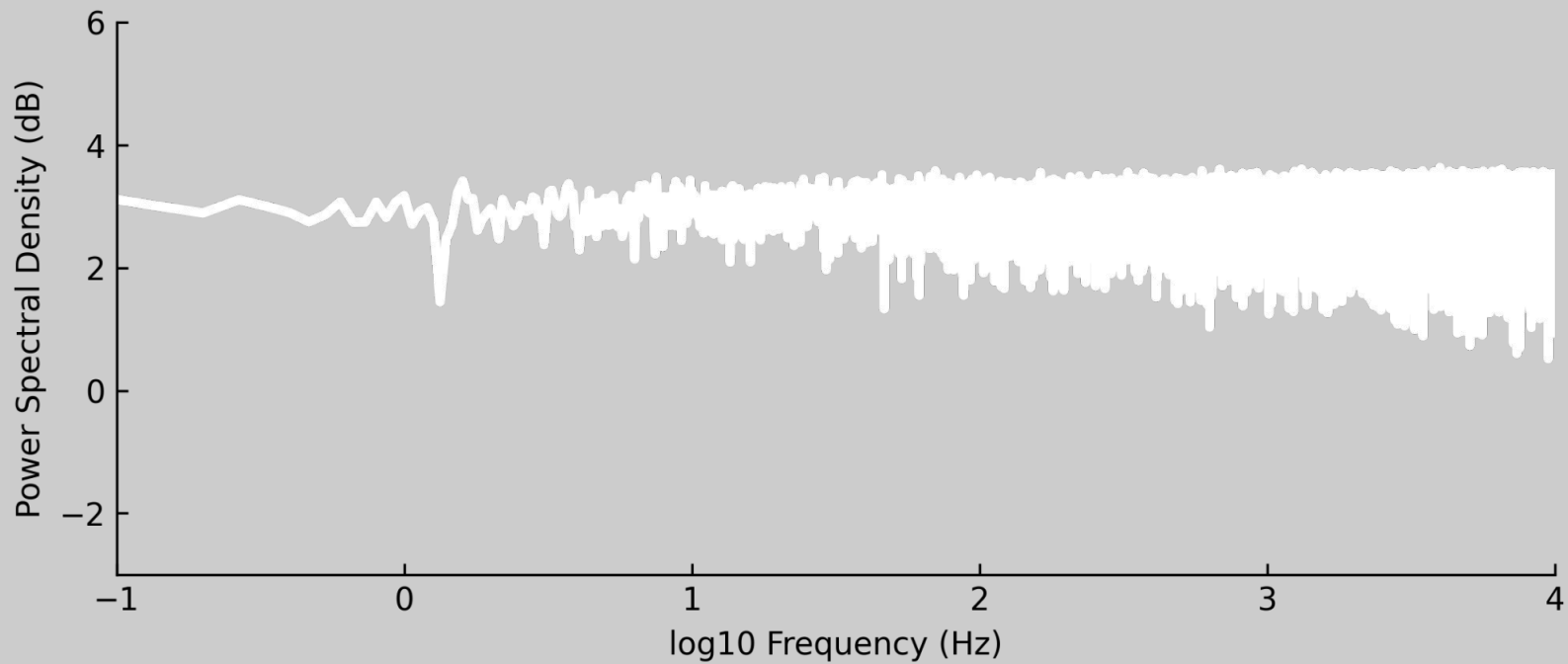


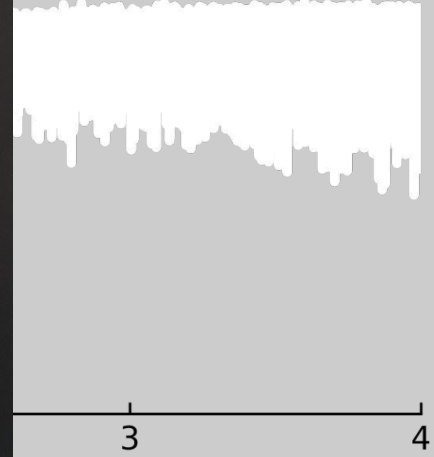
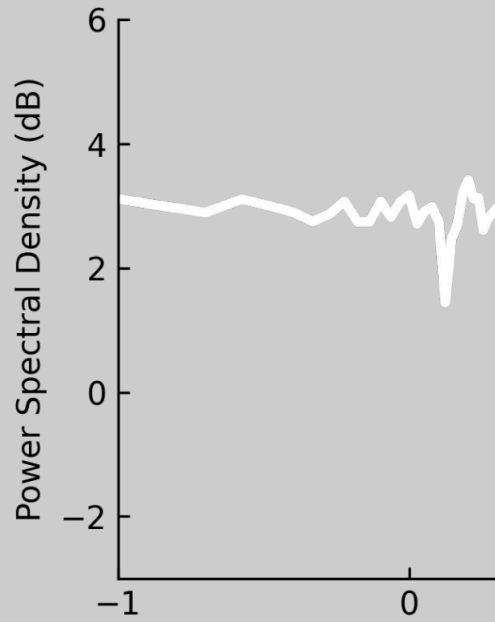
log10 Frequency

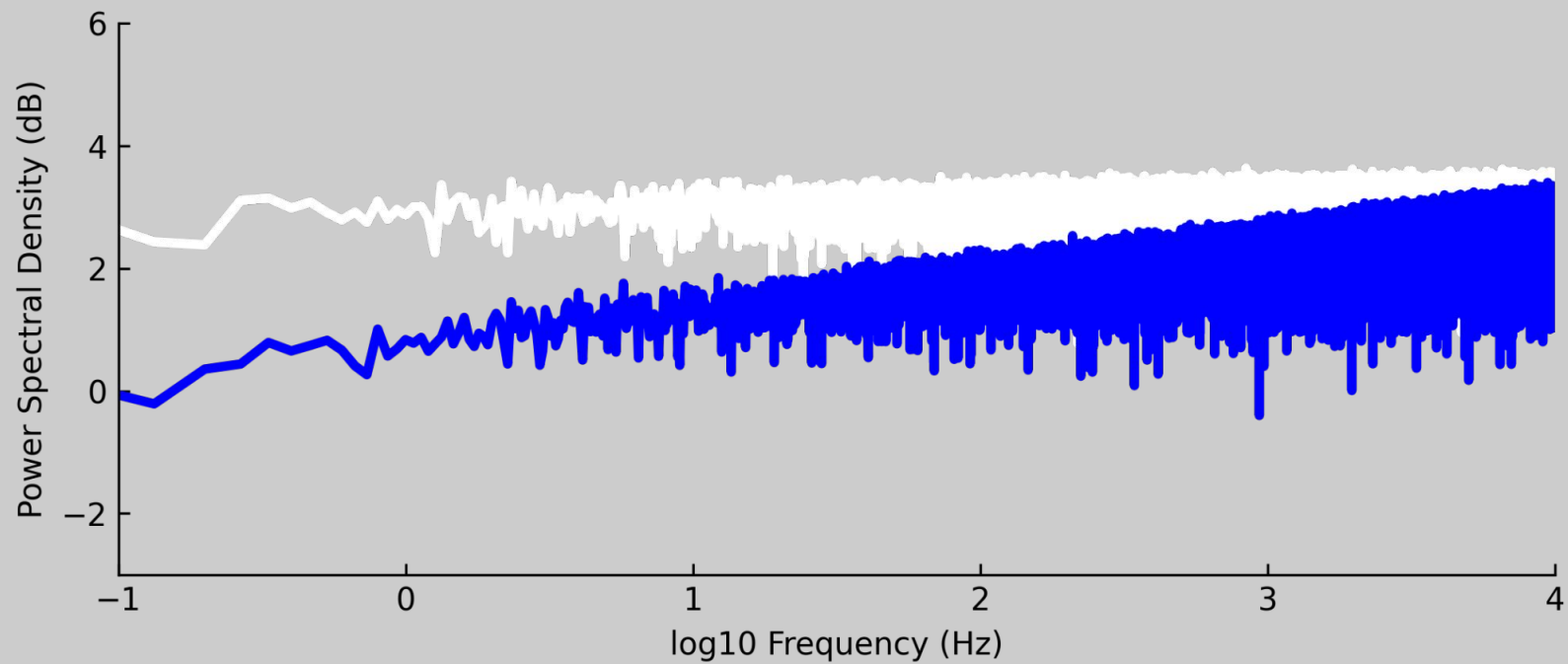
Apply **Fourier Transform**

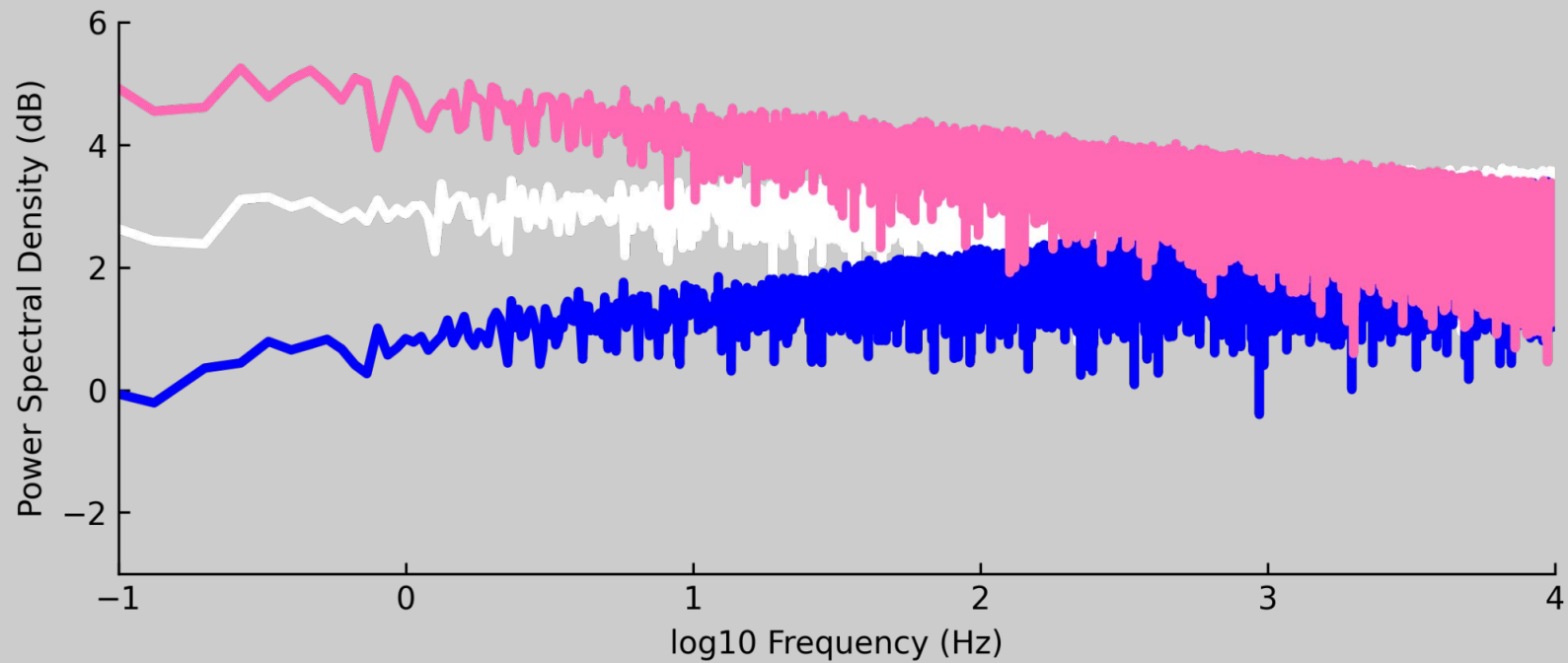


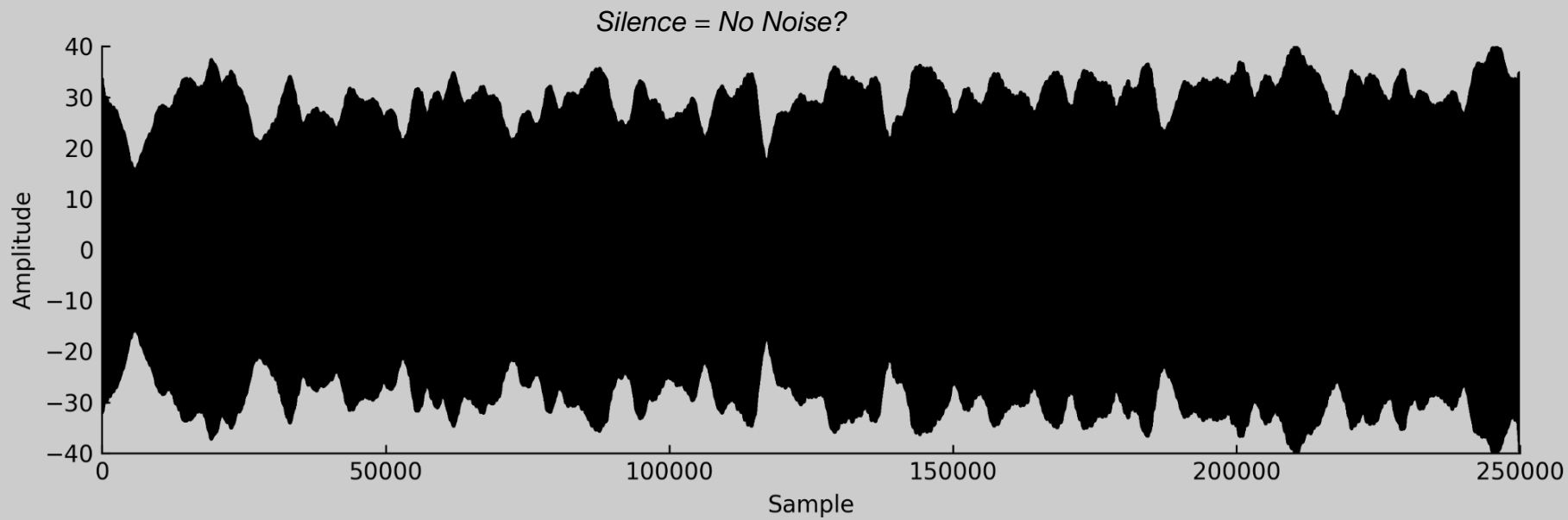


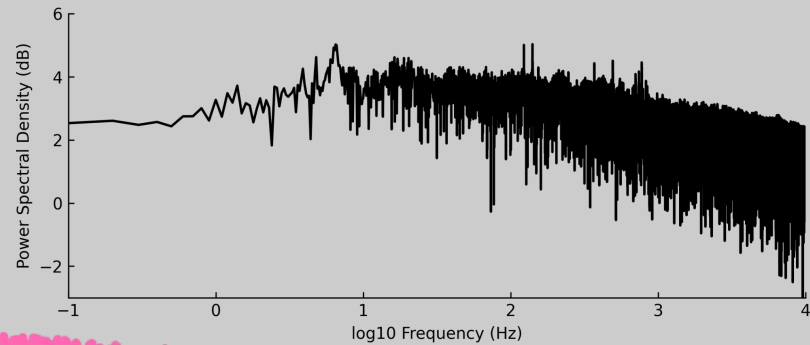
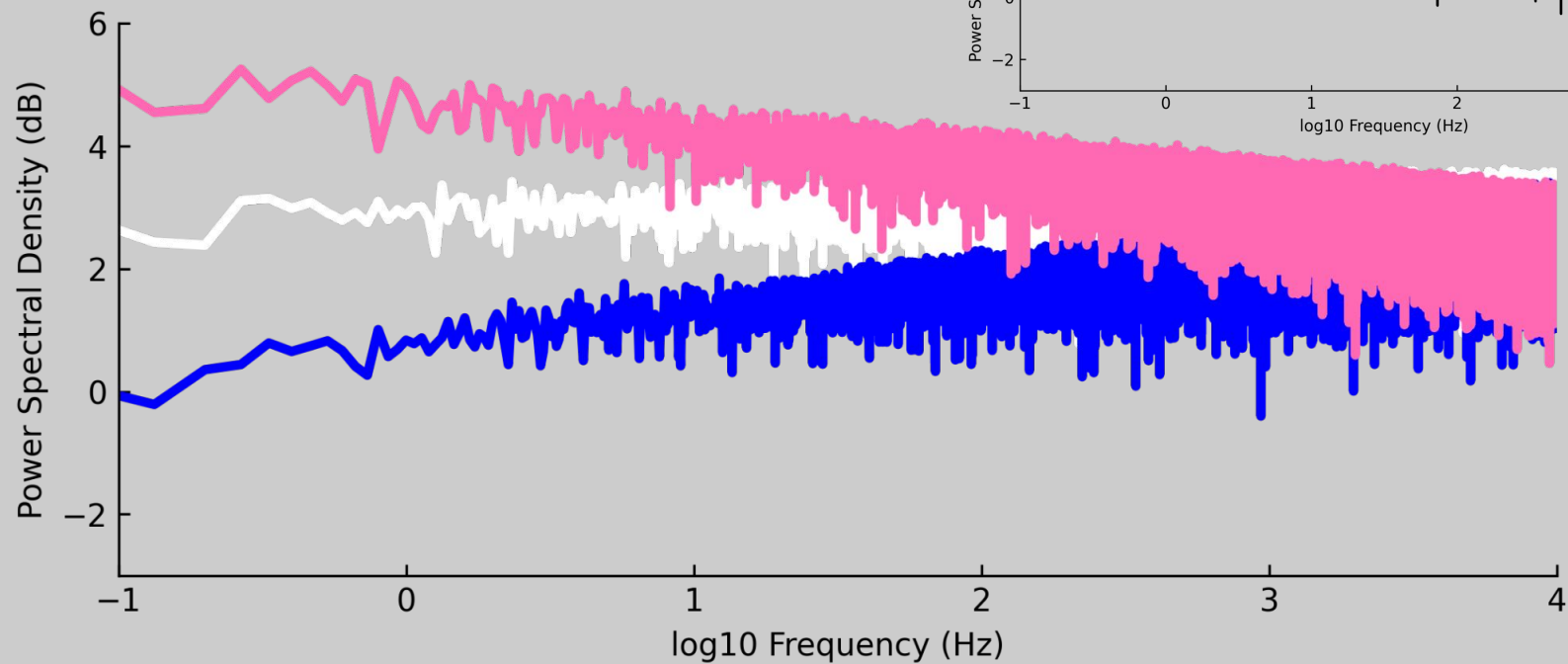


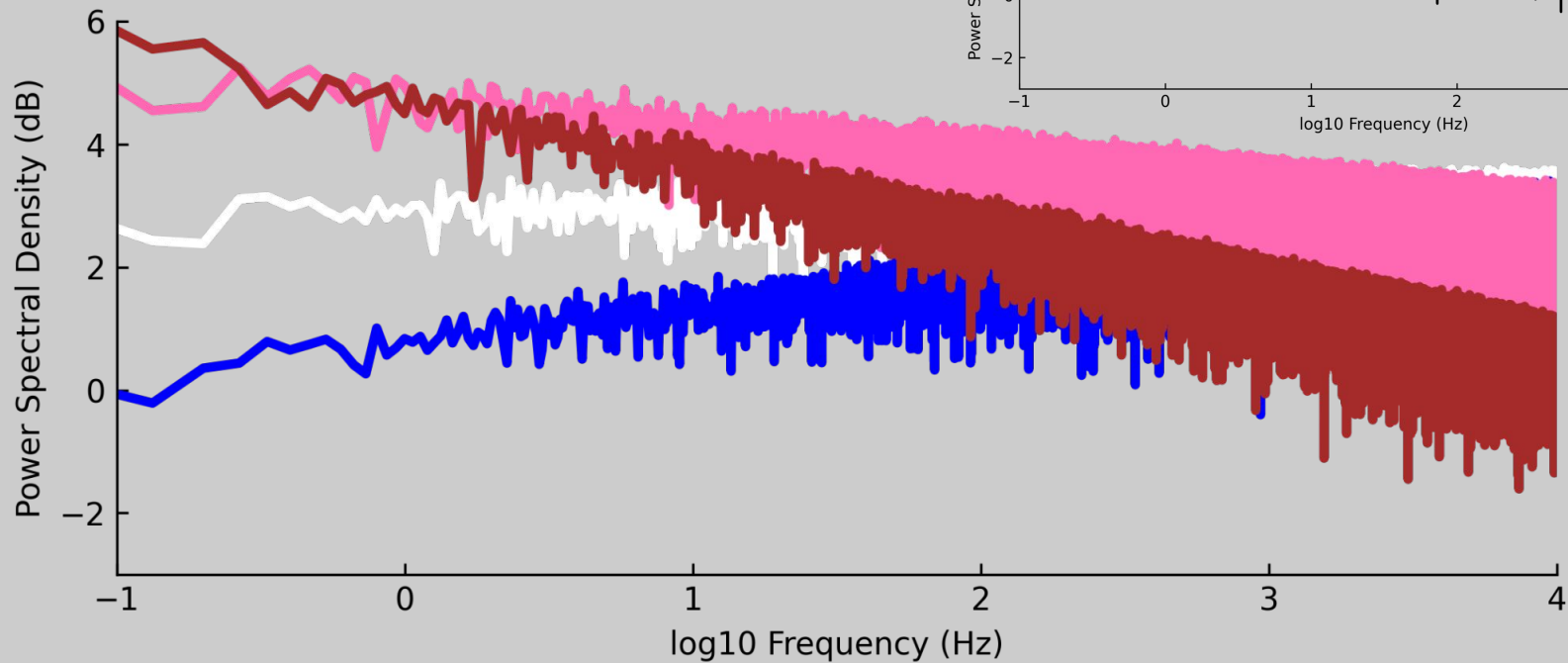




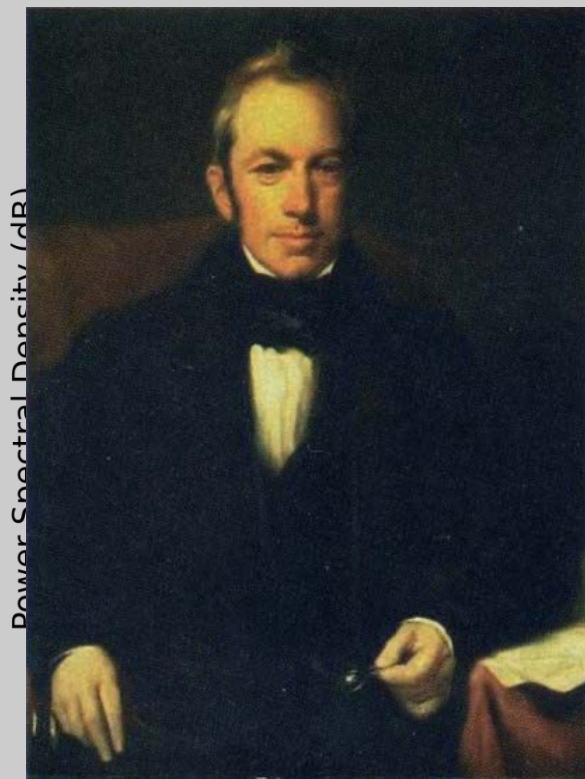




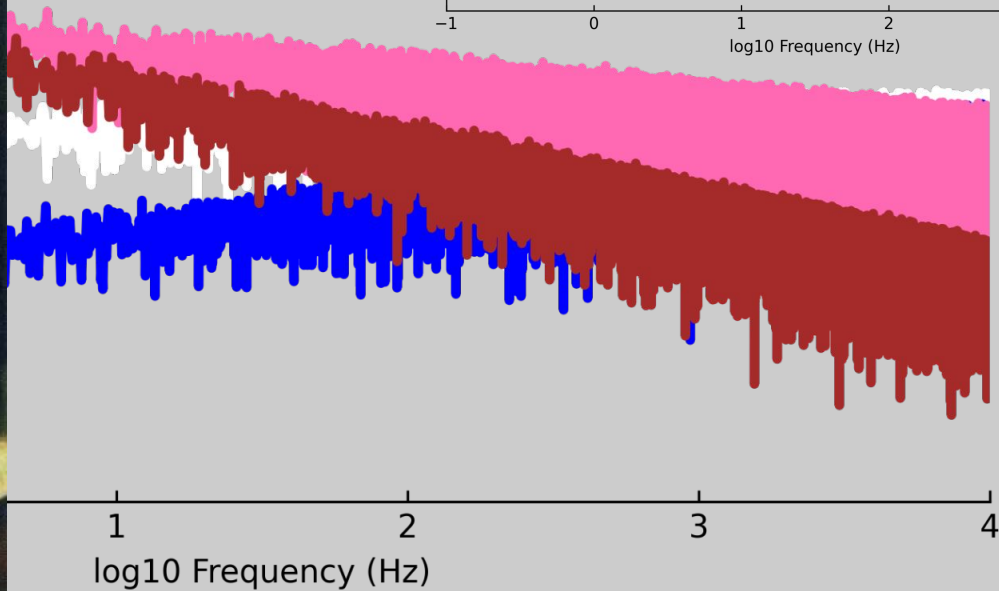
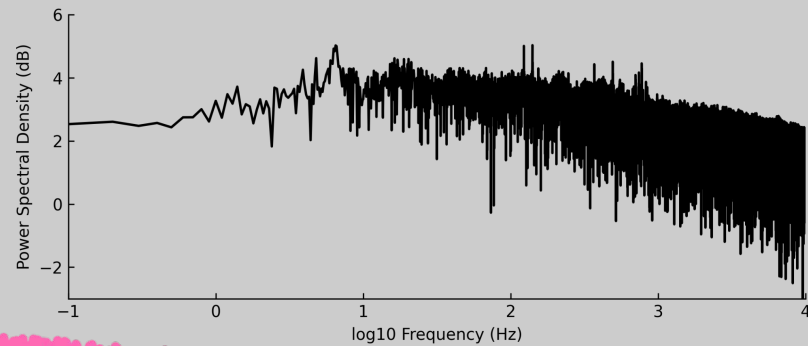








*Robert Brown (1773-1858), Scottish Botanist*



Health & wellbeing



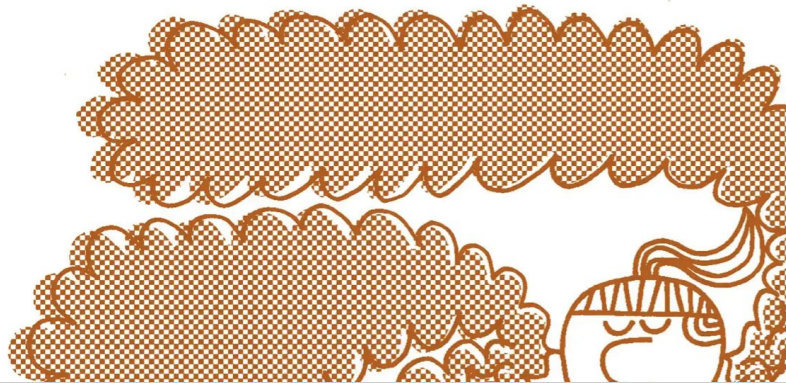
**Emma Beddington**

Wed 5 Oct 2022 14.00 BST



 300

## 'It feels like fresh air to my ears': can brown noise really help you concentrate?



Health & wellbeing

## 'It feels like fresh air to my ears': can brown noise really help you

**The Washington Post**  
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# For some with ADHD, the low rumble of brown noise quiets the brain

Listening to brown noise could have cognitive benefits for people with ADHD, but experts caution the evidence is still limited



By [Amanda Morris](#)

November 14, 2022 at 6:02 a.m. EST

Health & wellbeing

## 'It feels like fresh air to my ears': can brown noise really help you



**Emma Beddington**

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Listening to brown noise

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e is still

# Can Brown Noise Turn Off Your Brain?

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Listening to brown noise

The New York Times



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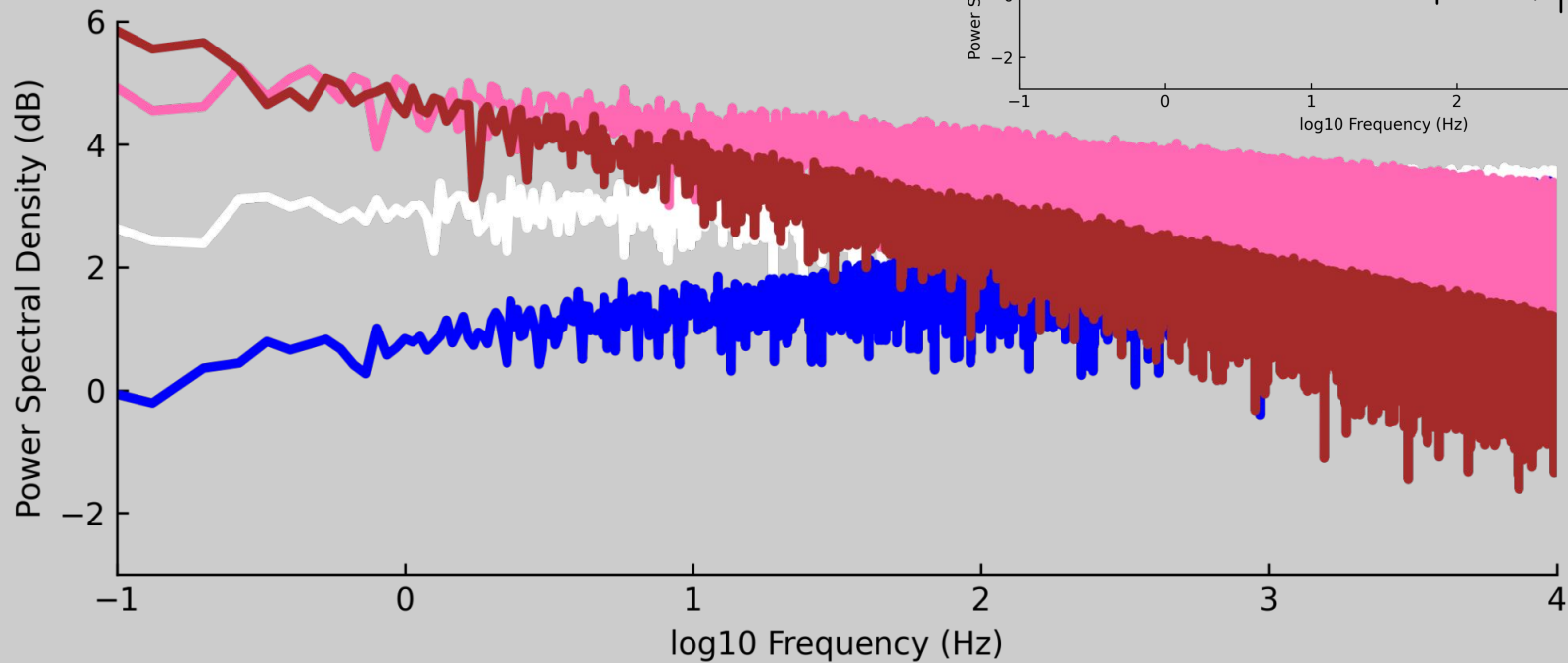
Brown Noise

Public Playlist

# Brown Noise

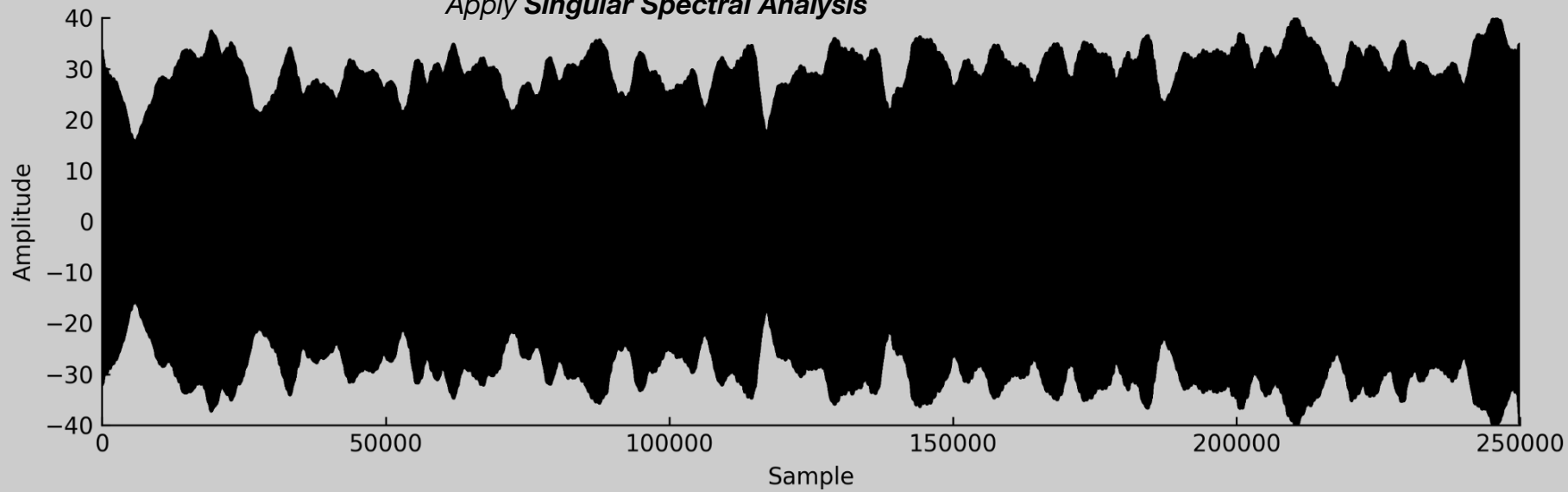
Soothing, low frequencies for relaxation, meditation or sleep.

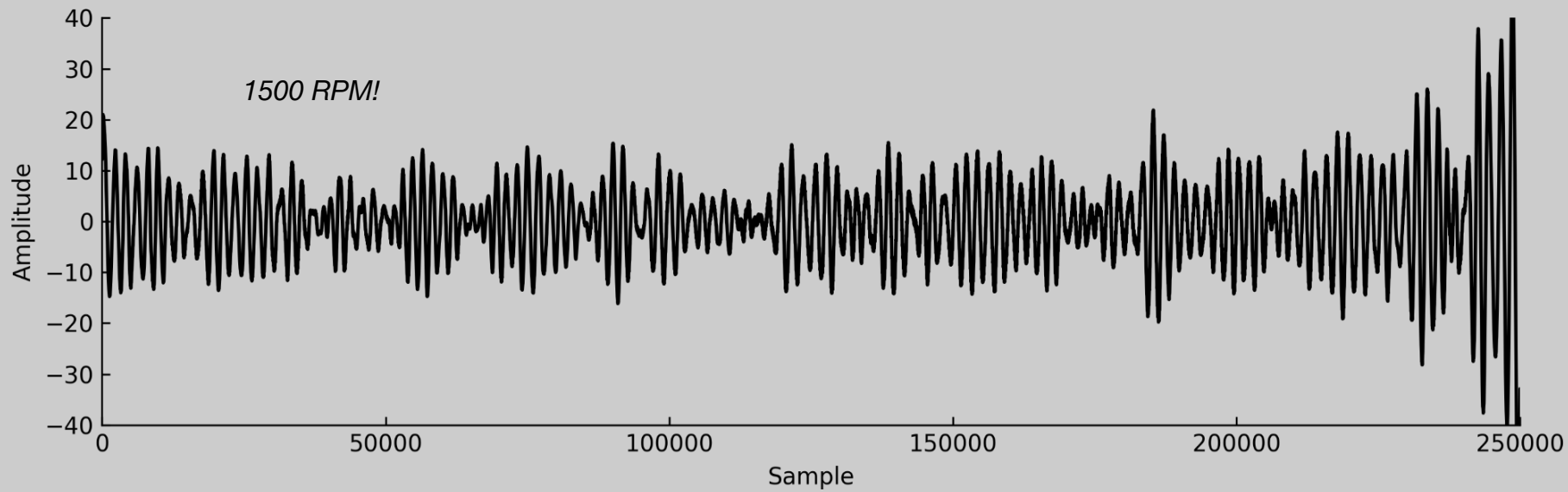
 Spotify • 650,667 likes • 229 songs, 11 hr 26 min





*Apply **Singular Spectral Analysis***





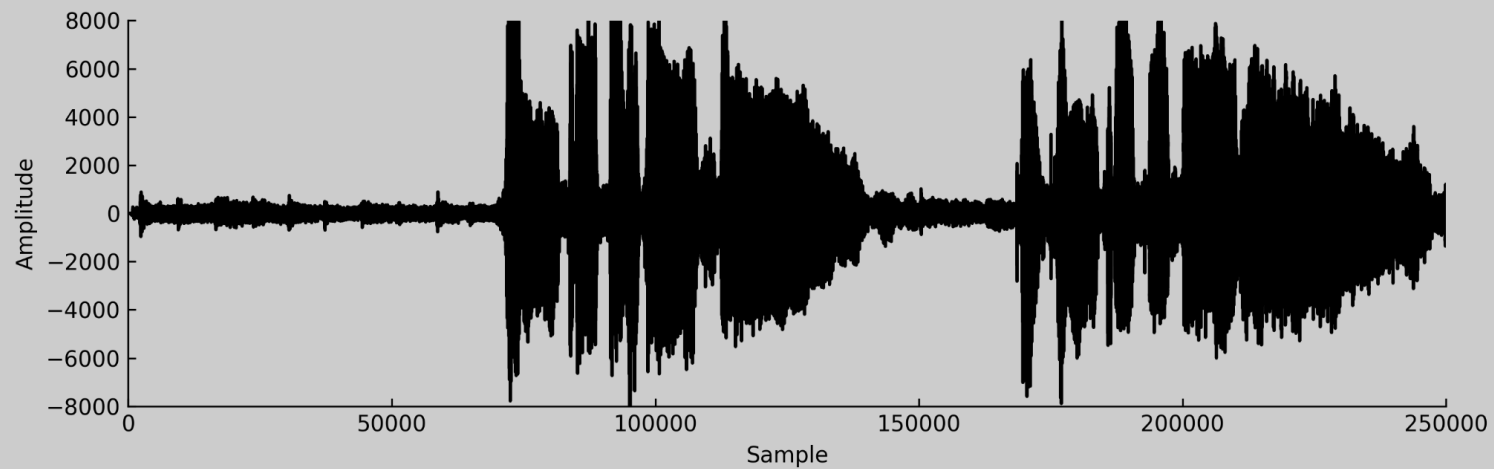


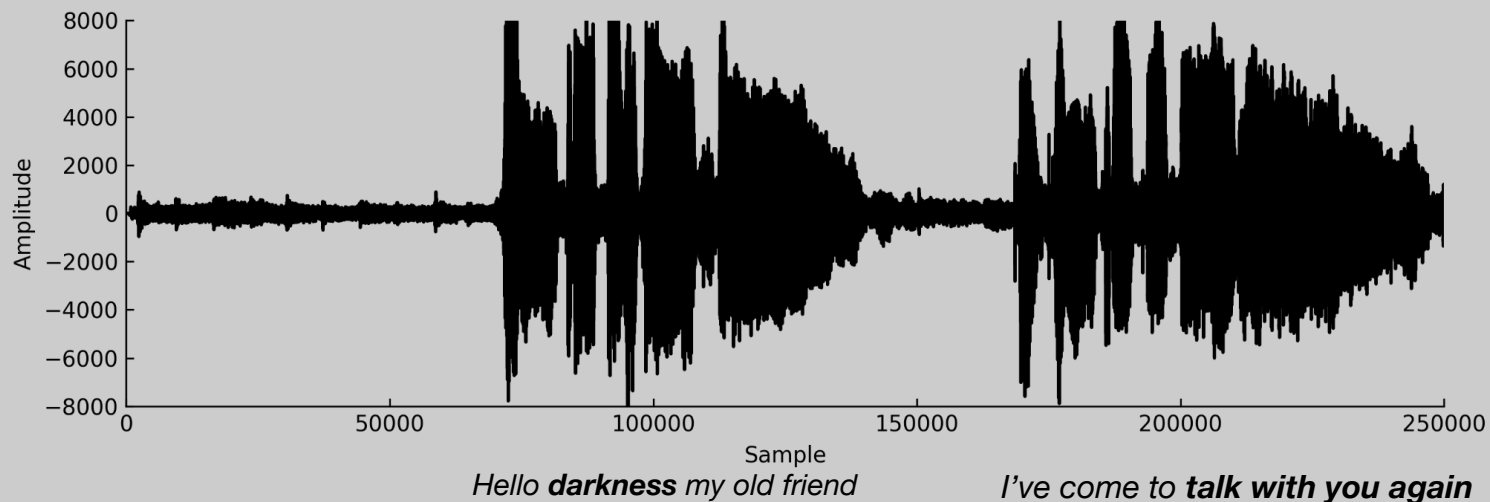
# The Sound of Silence

*Stobie*

*Mike Petersen*

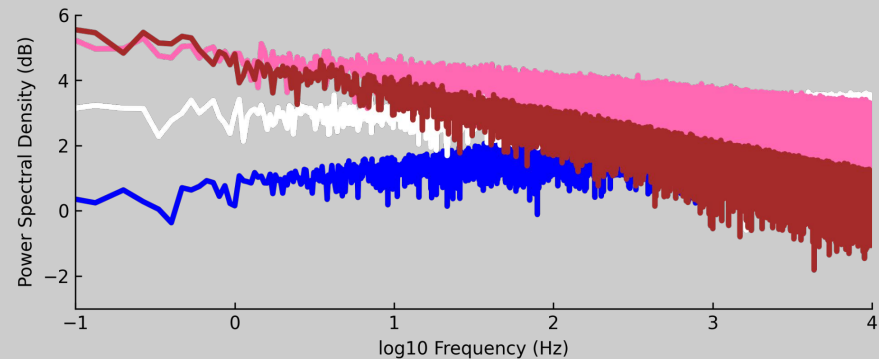
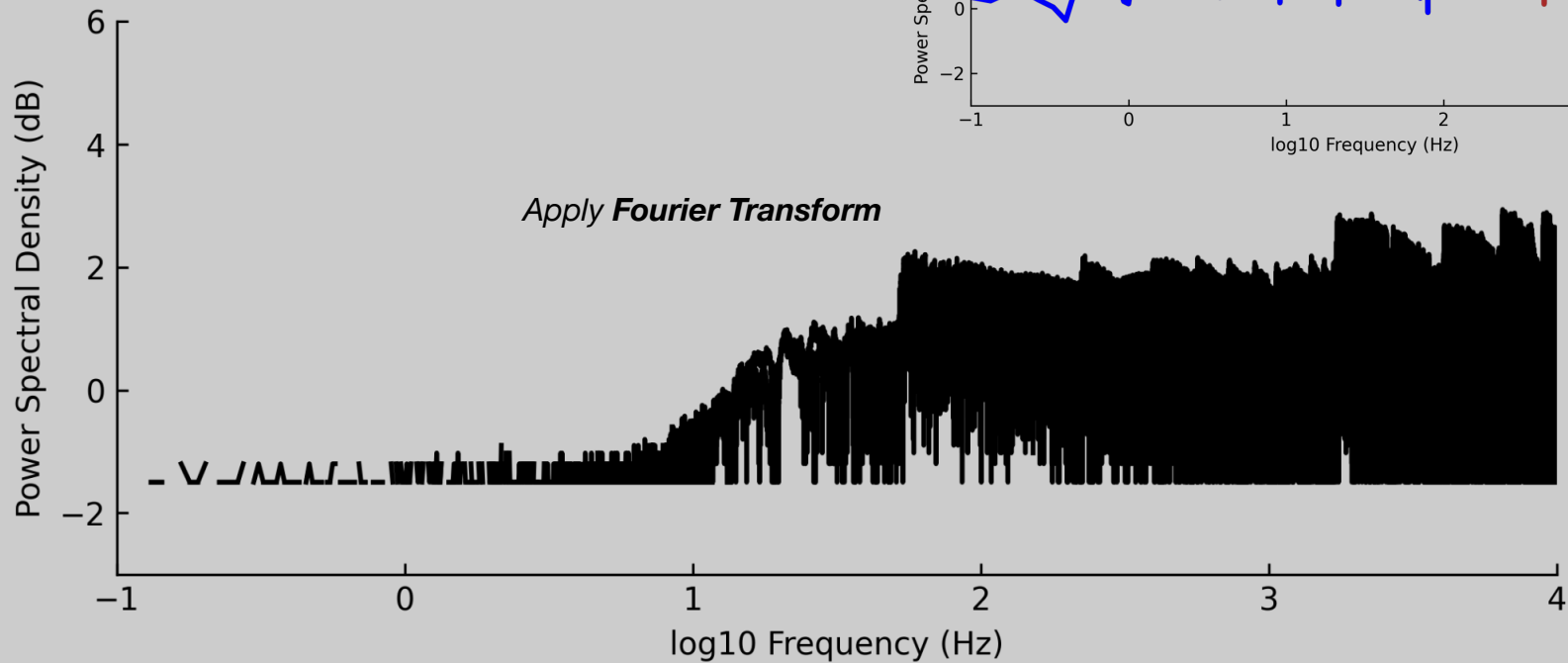
*2 June 2023*

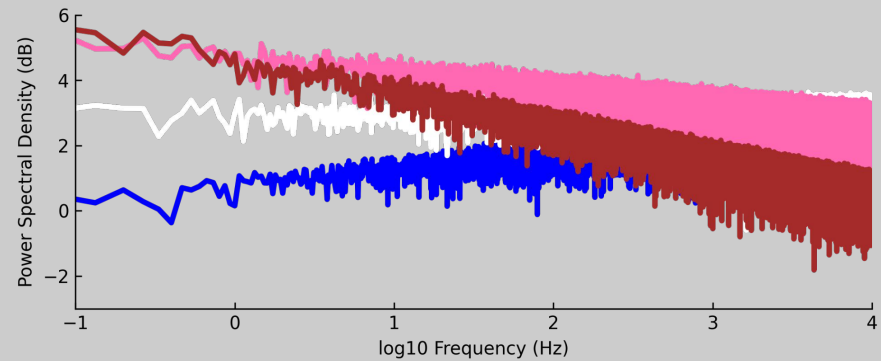
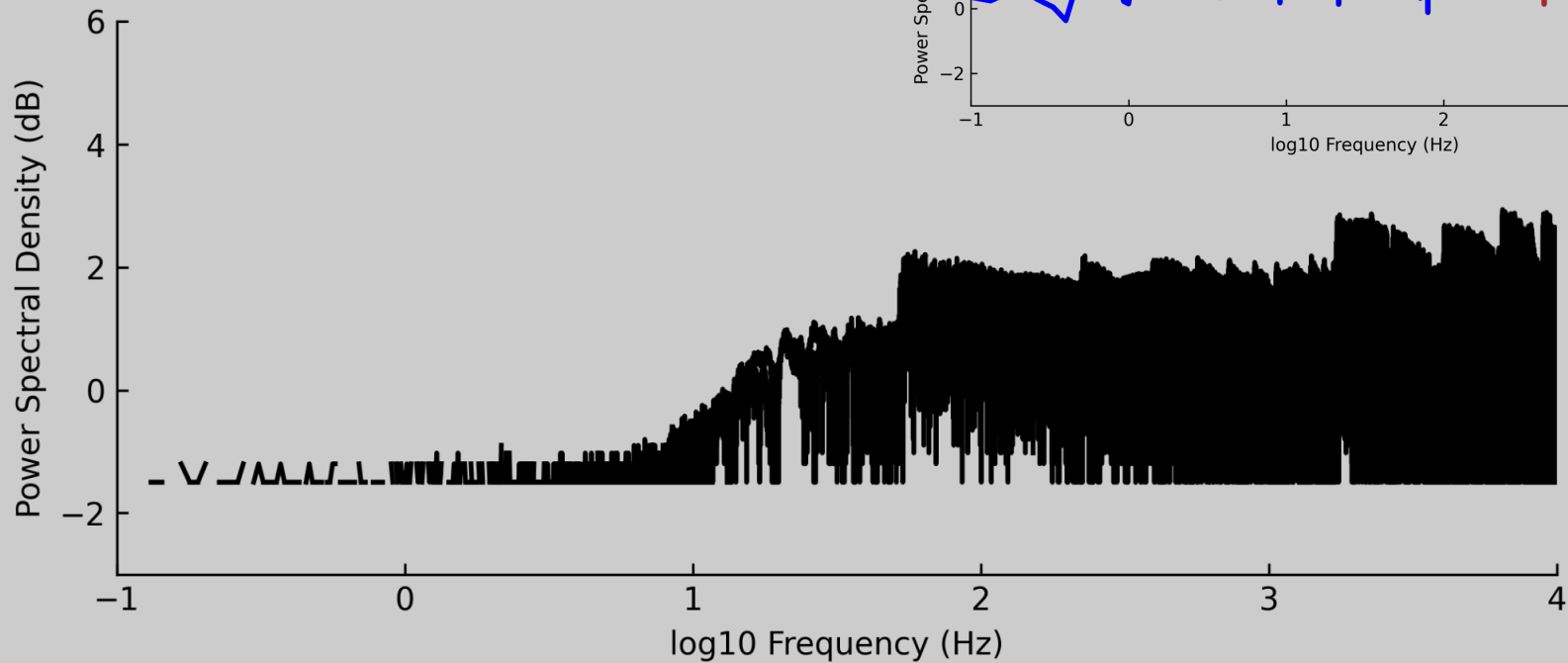


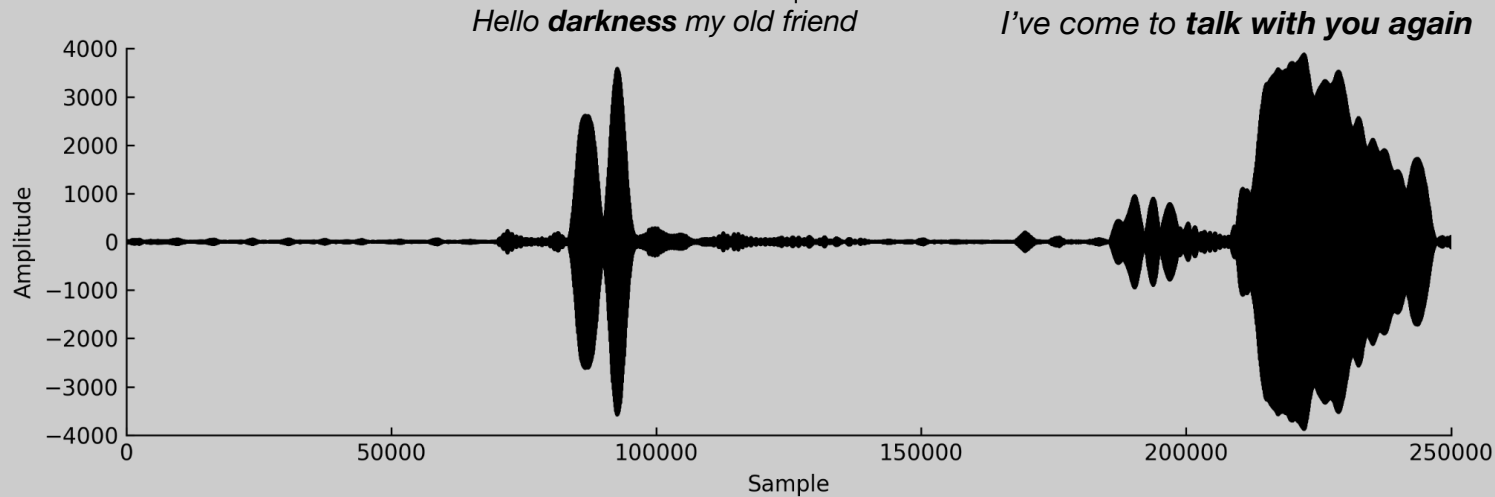
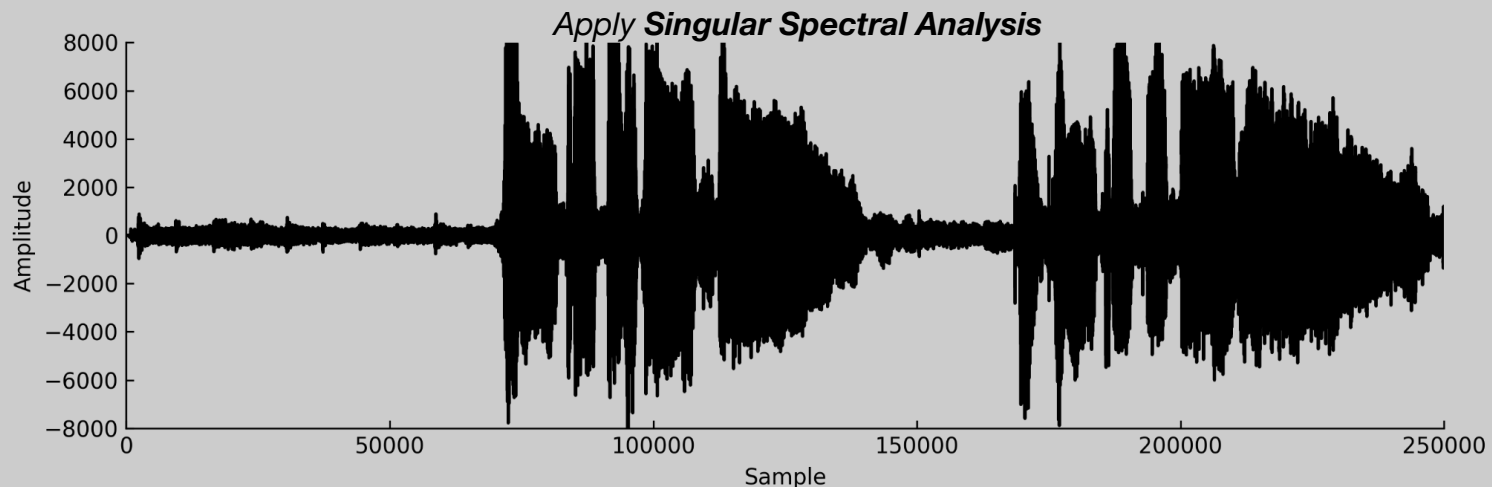


*Hello **darkness** my old friend*



*I've come to **talk with you again***







# Using multichannel singular spectrum analysis to study galaxy dynamics

Martin D. Weinberg <sup>1</sup>★ and Michael S. Petersen <sup>2</sup>

<sup>1</sup>*Department of Astronomy, University of Massachusetts, Amherst, MA 01003-9305, USA*

<sup>2</sup>*Institute for Astronomy, University of Edinburgh, Royal Observatory, Blackford Hill, Edinburgh EH9 3HJ, UK*

# Dynamical data mining captures disc–halo couplings that structure galaxies

Alexander C. Johnson,<sup>1</sup> Michael S. Petersen <sup>2</sup>★, Kathryn V. Johnston<sup>1,3</sup> and Martin D. Weinberg <sup>4</sup>

<sup>1</sup>*Department of Astronomy, Columbia University, 550 West 120th Street, New York, NY 10027, USA*

<sup>2</sup>*Institute for Astronomy, University of Edinburgh, Royal Observatory, Blackford Hill, Edinburgh EH9 3HJ, UK*

<sup>3</sup>*Center for Computational Astrophysics, Flatiron Institute, 162 5th Av., New York City, NY 10010, USA*

<sup>4</sup>*Department of Astronomy, University of Massachusetts, Amherst, MA 01003, USA*

*“[...] the vision that was planted in my brain still remains within  
the sound of silence” - Simon & Garfunkel*

*“[...] no one dared disturb the sound of silence” - Simon &  
Garfunkel*

# The Sound of Silence

*“The words of prophets are [...] whispered in the sounds of  
silence” - Simon & Garfunkel*