



# A series of short outreach videos about Particle Physics in Portuguese



Diogo Boito,<sup>1</sup> Ana Choueiri,<sup>2</sup> Maria Eduarda Garbossa<sup>1</sup>

<sup>1</sup> Instituto de Física de São Carlos, Universidade de São Paulo, Brazil ; <sup>2</sup> Universidade Federal de São Carlos, Brazil

## About the Project

- The videos discussed here were produced in the context of an initiative called 'Comunicar Ciência' (Communicate Science), funded by the Sao Paulo Research Foundation (FAPESP), for encouraging scientific outreach by research groups supported by the foundation in the State of Sao Paulo (Brazil.)
- The videos were produced by Professor D. Boito, along with two undergraduate students (M. E. Garbossa and A. Choueiri) majoring in different fields: one in Computational Physics and the other in Film and Media.
- A total of 15 videos were produced, with runtimes between 2 and 4 minutes. They were split into three different categories: [interviews with researchers](#) and graduate students, [curiosities about physics](#) and [particle physics outreach](#). At present **6 of the videos** have been posted.
- An Instagram profile for the particle physics research group was launched in February 2024 to share the project's videos. This material will also be available on a platform run by the Roberto Marinho Foundation, which is connected to one of Brazil's largest television networks.

## Interviews with students

This video series features five interviews with graduate students in particle physics, seeking to reveal to the public the people behind science. In these conversations, they explain why they chose this career path, share their motivations, describe their daily lives, and discuss what they expect for the future of the field.

**The interviews covered the following topics:** “Why particle physics?”; “What is researched in particle physics?”; “Particle physics in practice”; “What is the career of a theoretical physicist like?”; “The future of particle physics”.

### Metrics for the posted interviews:

	Why particle physics?	What is researched in particle physics?
Views	1922	1843
Likes	109	101
Comments	1	2
Shares	5	19
Save	8	4
Average watch time	19 s	20 s

Instagram Data: Collected July 2, 2025

## Curiosities about Physics

Additionally, five videos were produced that explore physics concepts through accessible language and a qualitative approach, seeking to draw parallels between the science and the public's everyday life.

**This set covered the following topics:** “What is an atom made of?”; “What is antimatter?”; “What does  $E=mc^2$  have to do with your weight?”; “Fundamental Forces and the Distance Squared”; “Weighing the Atom.”

### Metrics for the posted physics curiosities :

	What does $E=mc^2$ have to do with your weight?	Fundamental Forces and the Distance Squared
Views	929	1205
Likes	67	100
Comments	5	5
Shares	13	11
Save	10	6
Average watch time	18 s	37 s

Instagram Data: Collected July 3, 2025

## Particle Physics Outreach

To conclude, the project included a final set of five videos focused on more advanced topics in particle physics. These videos explained concepts such as the Standard Model, QED, and QCD, in addition to discussing the recent results from the g-2 experiment.

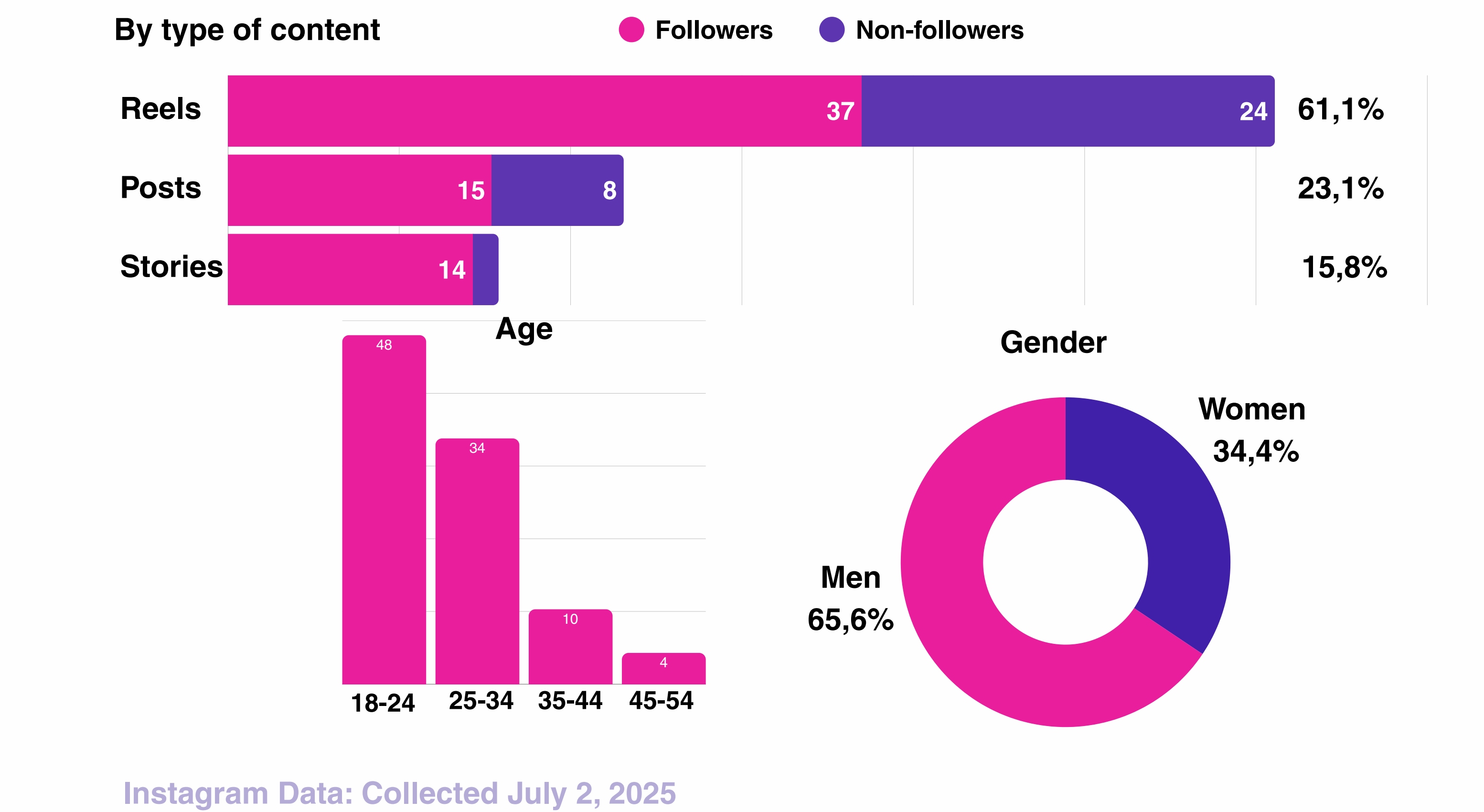
**The titles of these videos are:** “The Standard Model Pt. 1: Bosons and Fermions”, “The Standard Model Pt. 2: The Higgs Boson”; “The magnetic moment of the muon”, “QED and Feynman diagrams”, “QCD and the Strong Force”.

### Metrics for the particle physics posted:

	The magnetic moment of the muon	QED and Feynman diagrams
Views	1486	1123
Likes	102	95
Comments	0	1
Shares	18	8
Save	9	6
Average watch time	23 s	25 s

Instagram Data: Collected July 3, 2025

## Reached Audience Analysis



Instagram Data: Collected July 2, 2025

## Conclusions

- The strategic decision to prioritize reels over traditional posts was validated by superior engagement metrics, leveraging the short-form video format's consistent high performance on the platform.
- Our primary audience demographic consists of young adults aged 18-24. An qualitative analysis of follower profiles indicates that this audience is largely composed of university students and faculty members in STEM fields (Science, Technology, Engineering, and Mathematics).
- An analysis of the metrics revealed a clear distinction: while the interviews led in view volume, the series about physics curiosities achieved a qualitatively higher engagement, boasting more comments, shares, and greater audience retention.

## Acknowledgements



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