



# 3-hour resolution coronal jet database was established for Solar Cycle 24

## 24. Wave-like patterns were revealed for the coronal jet latitudes.

### Evolution of Coronal Jets during Solar Cycle 24

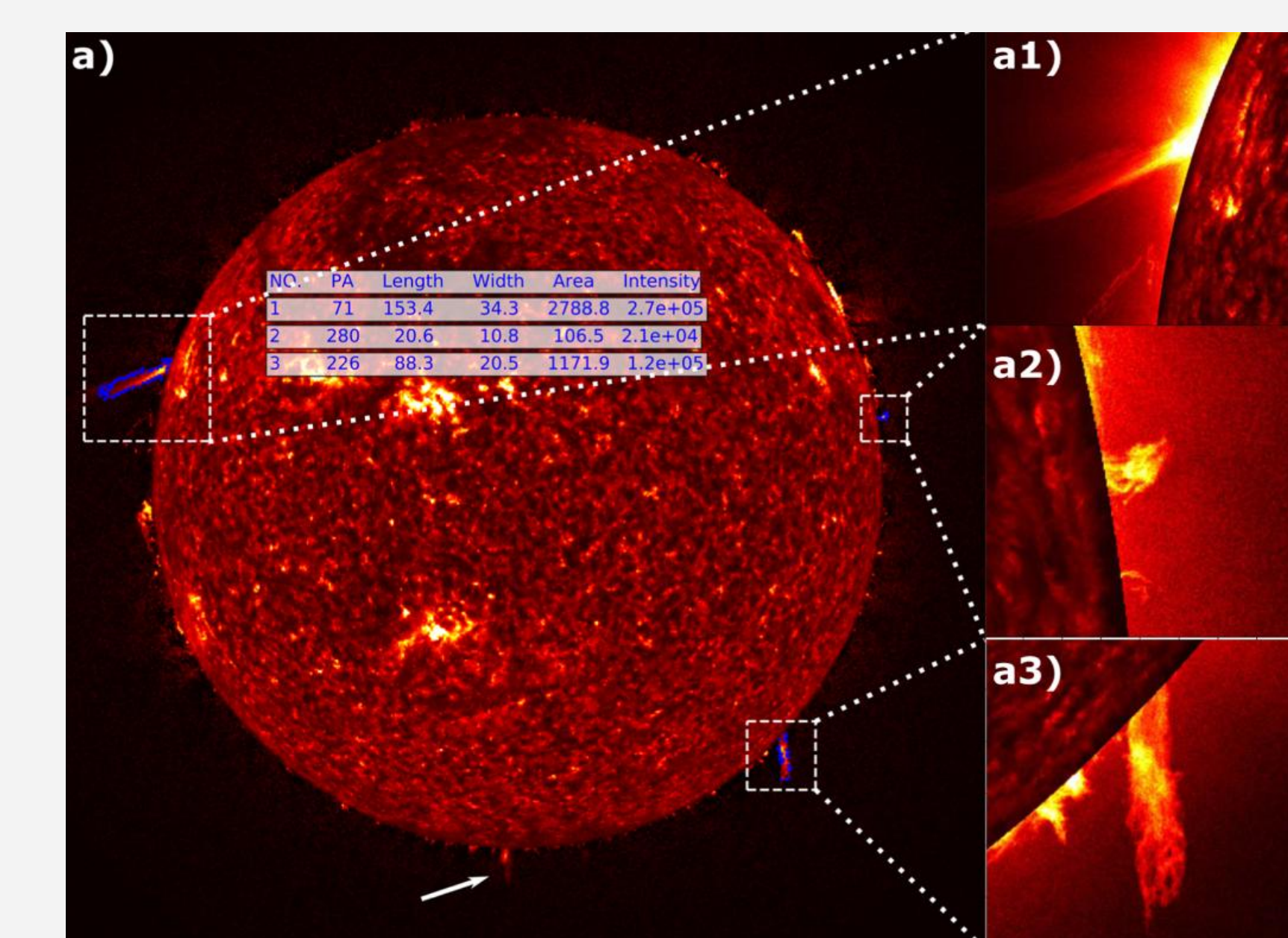
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#### Background

Solar coronal jets are one of the typical, highly dynamic phenomena in the solar atmosphere. Despite this, their detection is difficult.

#### Method

Semi-Automated Identification Algorithm of Off-Limb Coronal Jets (**SAJIA**) were employed to detect jets (Liu et al. 2023).

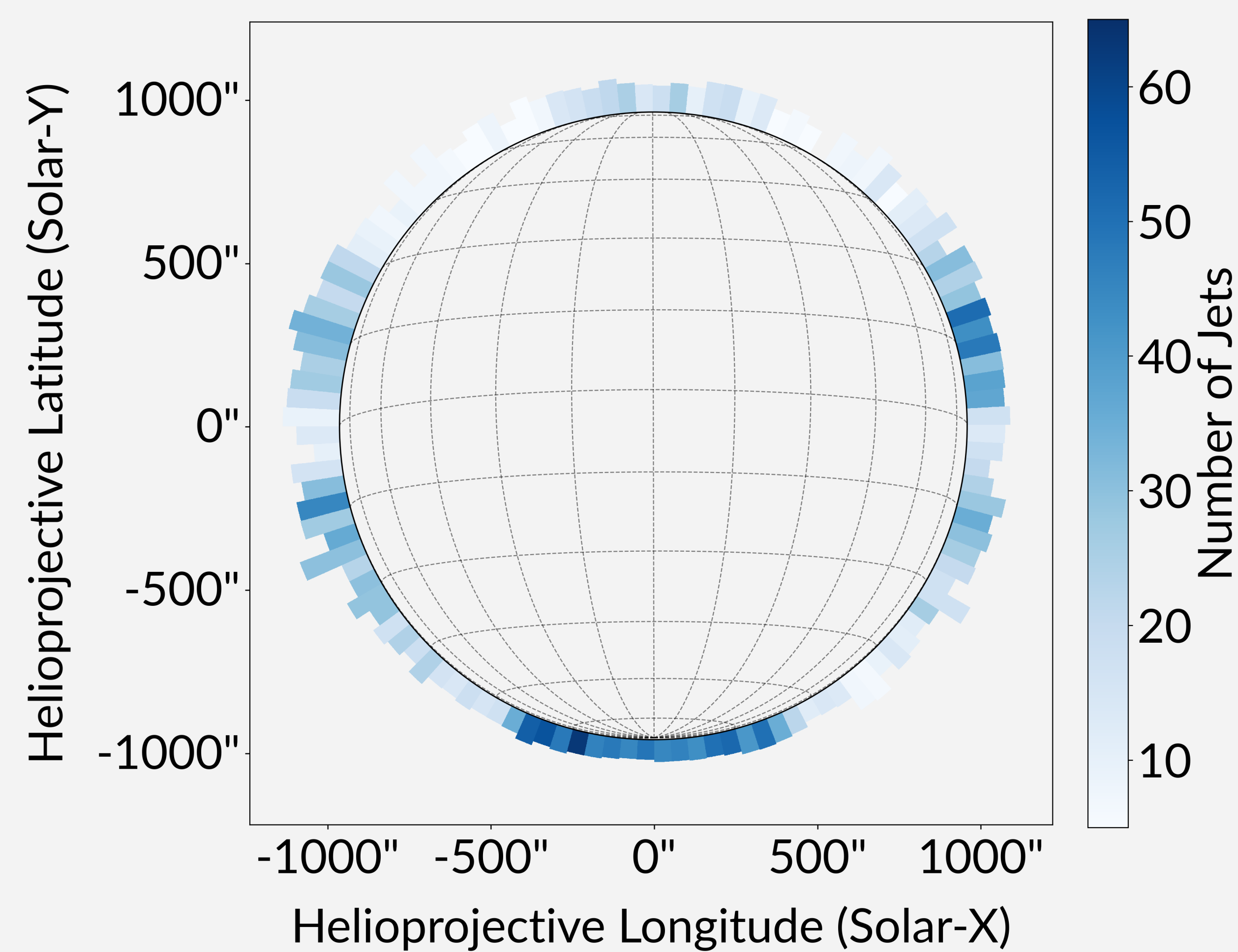


#### Results

**3-hour** temporal resolution **database** was created from 2010-06-01 to 2021-12-31. Total of **2704 coronal jets** in our catalog including Carrington longitude, latitude, intensity and jet area, position angle, length and width are recorded. Each jet was **manually confirmed**.

**Jets are clustered at low-latitudes** ( $\pm 10\text{-}30^\circ$ ) and **at the poles** ( $\pm 60\text{-}90^\circ$ ).

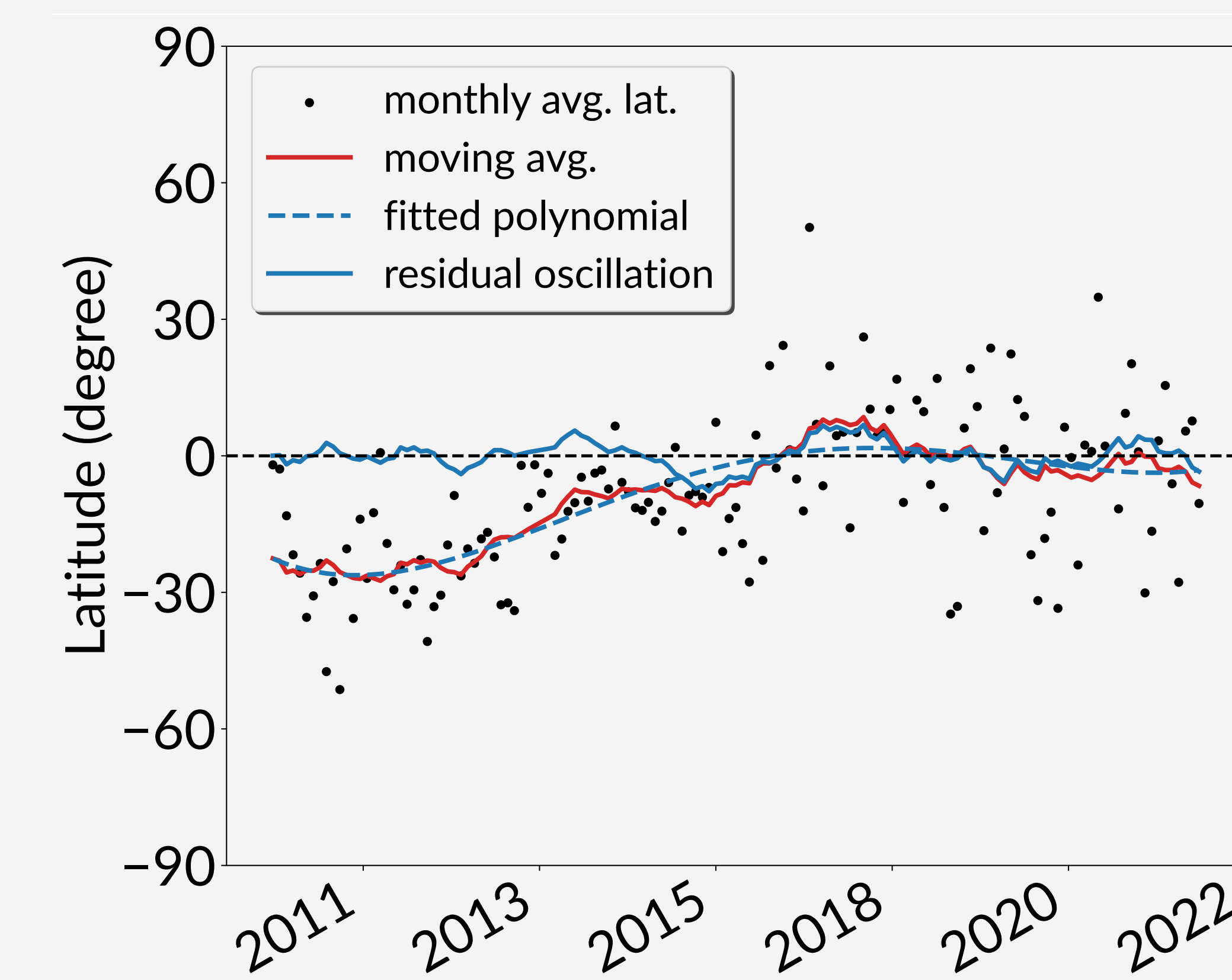
**Increased number of jets at the south pole**, potentially caused by the **asymmetry** of the solar mean magnetic field in Solar Cycle 24.



The latitudes of the jets are averaged on a monthly basis using **both hemispheres**.

**The latitudes outline** a sinusoidal oscillatory pattern.

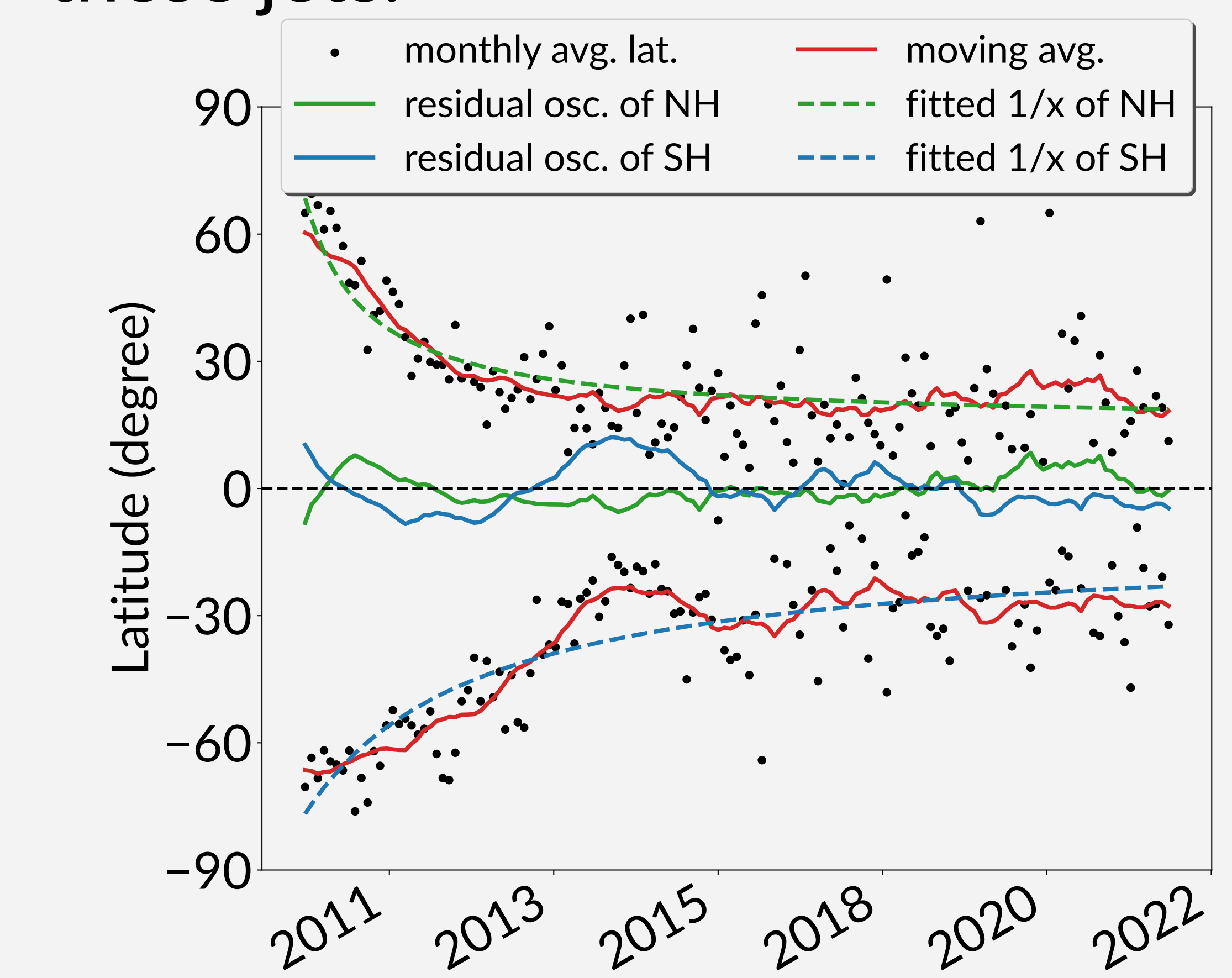
The entire system exhibits an oscillation, as if it were a **kink-type oscillation** of a wave guide.



The latitudinal distribution of jets plotted **separately** for the northern (NH), and southern **hemispheres** (SH).

NH and SH latitudes shows an **anti-phase oscillatory pattern**.

Oscillation **interpreted as a sausage oscillatory pattern** in the birth of these jets.



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