

# Mittheilungen Data New

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**Mittheilungen Data** : Databases of sunspot counts collected from multiple observers by Professor Rudolf Wolf. It's the primary source of sunspot data.

Importing functions from scripts file. All the data used is in the folder **data**

Observers are grouped by FK\_OBSERVERS.

Number of Observers by FK\_OBSERVERS: 148

Number of observers by ALIAS: 144

Number of observes by ALIAS(144) is different from  
number of observers by FK\_OBSERVERS(148).

One of the ALIAS has multiple FK\_OBSERVERS IDs.

Checking ALIAS'es with multiple FK\_OBSERVERS IDs.

Broger has multiple FK\_OBSERVERS IDs.

FK\_OBSERVERS IDs associated with Broger are [104 117]

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### OBSERVER STATISTICS

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Total unique observers: 148

Observation period: 1849-01-01 00:00:00 to 1944-12-31 00:00:00  
Total observation span: 96.0 years

## 1 Timeline of the observers

**TODO: Plot only top 10 to 20 observers**

Figure 1 is a timeline plot showing actual observation days for all observers in Mittheilungen data. X-axis is time in years, and in Y-axis we have observers sorted by start date, and number of observations for each observer is shown in the parantheses.

## 2 Bubble plot of the observers

Figure 2 is a bubble plot showing all observers in Mittheilungen data. X-axis is start date, Y-axis is end date, size of the bubble is the number of observations, color is the number of observation years, hover name is the alias, and text is the alias.

## 3 Animated bubble plot of the observers

Figure 3 is similar to Figure 2 but with animation over the start year.

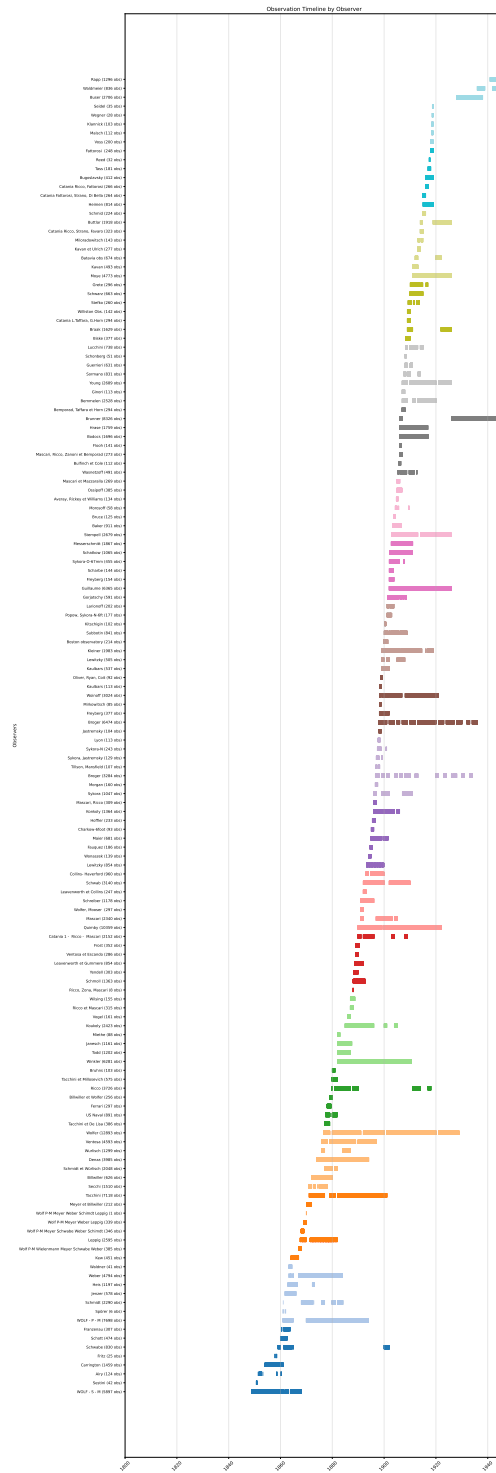


Figure 1: Plot showing actual observation days for all observers in Mittheilungen data

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(a) Bubble plot showing all observers in Mittheilungen data

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(b)

Figure 2

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Figure 3: Animated bubble plot showing all observers in Mittheilungen data.