



Contribution ID: 126

Type: Poster

## The N-S-asymmetry of the different magneto-morphological types active regions in the 23rd and 24th solar cycles

*Monday, September 6, 2021 10:58 AM (13 minutes)*

We use SOHO and SDO data to study 2046 active regions (ARs) of the 23rd and 1507 ARs of the 24th solar cycles. According to empiric regularities for sunspot groups (Hale's polarity law, Joy's law, etc.) and the magneto-morphological classification (MMC), all ARs were divided into three types: A-type – regular bipolar ARs; B-type – irregular ARs that violate at least one of empiric rules; U-type – unipolar spots. We found that regular/irregular ARs make near a half/quarter of all ones. The A-type ARs are distributed evenly between two maxima of each cycle, whereas the number of B-type ARs increases in the second maxima. Both regular and irregular ARs exhibit strong N-S-asymmetry. The number of A-type ARs in different hemispheres shows peaks in two maxima of each cycle alternatively (the sequence is different in studied cycles). The B-type ARs shows a similar pattern (although the A-peaks and B-peaks occurs in different cycle maxima), excluding immense B-peak in the S-hemisphere in the second maximum (cycle 24) that breaks the expected sequence. The cyclic variations of the normalized asymmetry index shows postponement for the B-type ARs (related to the S-hemisphere) with time difference  $\sim 1.5$ -2 years. The tendencies found are discussed in terms of the mean-field dynamo theory. The classification of ARs by AZh was supported by the RSF (Project 18-12-00131). VA thanks the MSHE of RF (Research 0831-2019-0006). The work of AKh was supported by the basic financial program of the FSR II.16. AKh thanks the support of the RFBRs grant 19-52-45002.

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**Session Classification:** Poster Session 1.1

**Track Classification:** Session 1 - Solar Interior, Dynamo, Large-Scale Flows and the Solar Cycle