

NUMBERS AND SHAPES. EXAMINING PHOTOGRAPHS OF THE SOLAR CORONA AT THE OCCASION OF THE TOTAL SOLAR ECLIPSE OF 30 AUG 1905

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The brightness and structure of the solar corona were important research objectives in observing solar eclipses. Two German expeditions, which travelled from Hamburg and Göttingen to Souk Ahras and Guelma in Algeria for the total solar eclipse of 30 August 1905, were among those interested in the structure and brightness of the solar corona. Their expeditions were favoured by the weather and they returned with numerous photographs and spectrographs of the eclipse. Upon their return, the plates were eagerly analysed. In my presentation, I zoom in on the research that was done at and around the photographic plates of the eclipse. I show that a mix of quantitative and qualitative methods were used to analyse the solar corona as depicted on the photographic plate. Position angles and the size of protuberances were measured, as well as the brightness of certain areas. At the same time, drawings of the corona's ray structure were compiled and detailed verbal descriptions developed. Interestingly, these methods were intertwined. Position angles were provided alongside verbal descriptions, and an isophote drawing was compiled on the base of photometric measurements. Overall, a rich variety of methods and materials were used to investigate and communicate the elusive structure of the corona.