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## OBSERVATIONS OF TOTAL SOLAR ECLIPSES – TASKS AND RESULTS

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Despite today we have advanced instruments for high-resolution ground- and space-based solar observations, total solar eclipses remain invaluable for solving various specific tasks. We summarize the experiments we fulfilled and the results we obtained during our scientific research expeditions for observations of total solar eclipses. The main tasks our team completed are dedicated to registering and revealing the fine structure of the white-light solar corona and determining the boundaries of its electronic component observing its polarized light. We also pay attention to the accompanying events that the occulted Sun can cause like shadow bands and to the changes in atmospheric conditions (temperature, wind speed and direction, etc.) on Earth. We discuss an experiment for defining the inner boundaries of distribution of neutral dust in the corona and reveal plans for the upcoming expeditions.