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Temperature, Density and Magnetic Field Structure of the Corona During the Total Solar Eclipse of 11 August 1999

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The Harvard-Smithsonian Center for Astrophysics eclipse expedition to Ayn Diwar in Syria on 11 August 1999 explored the temperature and density structure of the corona through simultaneous measurements of the Fe X 6374, XIV 5303 and XI 7892 Å lines, the H α 6563 Å line, and white light. In addition, polarization measurements performed in the Fe XIV 5303 Å and H α 6563 Å lines yielded the direction of the coronal magnetic field, while polarization measurements in white light yielded density. Supporting space based observations were made with SOHO, in particular with LASCO and UVCS. The comprehensive coronal diagnostic resulting from the analysis of the observations of the spherically symmetric corona of 11 August 1999 will be presented.

Financial support for this work was provided by NSF grant ATM 9521733. We also acknowledge the generous hospitality and support provided by the Syrian Ministry of Higher Education to conduct the experiment in Syria.

American Geophysical Union Abstract Form

Reference # 6455

1. 1999 AGU Fall Meeting
2. AGU-00108408
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Date received: September 9, 1999
Date formatted: September 9, 1999
Form version: 1.5