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Observations at Jupiter by the Juno Waves Investigation

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The Juno spacecraft successful entered into a highly elliptic polar orbit of Jupiter on 5 July 2016, providing a unique opportunity to explore the Jovian polar magnetosphere. Juno's science payload employs a suite of particle, field, and remote sensing instruments to characterize the Jovian magnetosphere and provide remote observations of Jupiter's auroras. The radio and plasma wave instrument ("Waves") measures one electric field component of waves in the frequency range of 50 Hz to 40 MHz and one magnetic field component of waves in the range of 50 Hz to 20 kHz. Initial perijove passes with science observations have revealed a number of radio and plasma wave phenomena likely related to auroral processes, suggesting that Juno passed through or very close to the source region of Jovian auroral radio emissions. During the approach to Jupiter and throughout initial orbits, Waves detected upstream plasma waves and recorded clear signatures of a number of bow shock and magnetopause crossings. At higher frequencies, kilometric, hectometric, and decametric emissions are regularly observed. In this talk we will provide an overview of these early observations from the Juno Waves investigation.