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## Signatures of wave activity in the lower solar atmosphere of solar wind source regions

During its first close encounter of 2023, the Solar Orbiter spacecraft was magnetically connected to different areas within an active region-coronal hole (AR-CH) complex. As the spacecraft was close to the Earth-Sun line at the time, IRIS and Hinode EIS were able to provide coordinated observations of the AR-CH complex. These complementary datasets provide the perfect opportunity to characterize wave activity in the different solar wind source regions including coronal holes, active region upflows, and coronal hole boundaries. In this study, we combine magnetic element tracking and power enhancement maps in the photosphere with IRIS observations in the chromosphere/transition region and EIS observations in the corona to characterize the different wave activity and to discern among the possible drivers for each type of solar wind source region. Our findings have implications for solar wind formation and acceleration mechanisms including the S-web.

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