

# Relation between magnetic flux imbalance in coronal holes and high-speed solar wind streams at 1 AU



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How does magnetic flux imbalance in coronal holes influence the generation of fast solar wind streams?

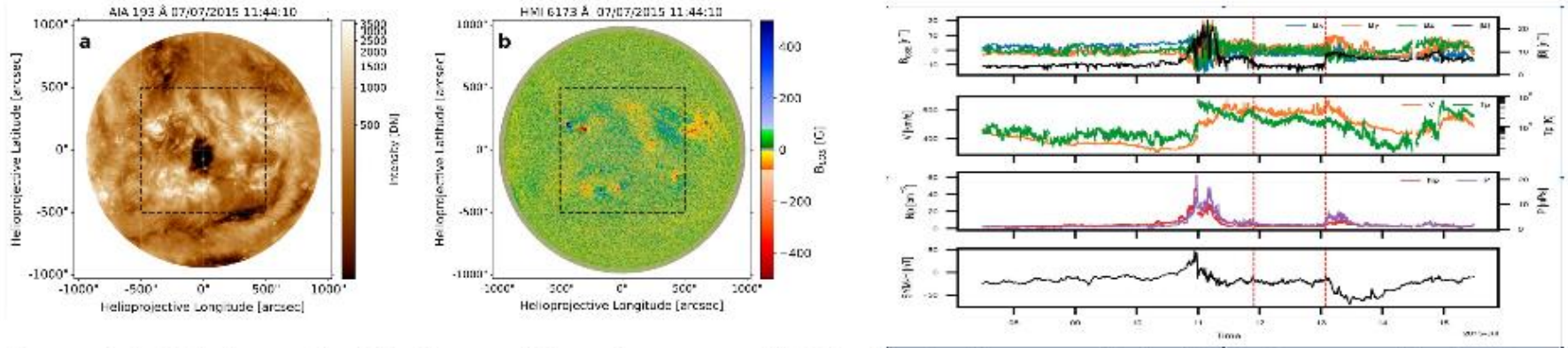
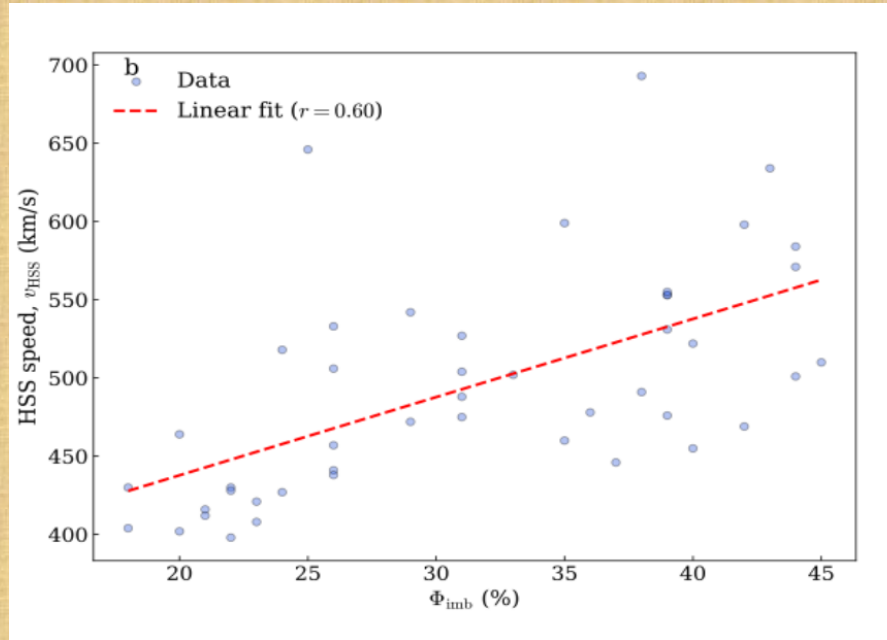


Figure 1. Left: Extreme-ultraviolet image of the solar corona at 193 Å, showing the coronal hole. Right: Corresponding in situ measurements of solar-wind plasma and magnetic-field parameters associated with the coronal-hole source region.

# Relationship between Magnetic Flux Imbalance and High-Speed Solar Wind Streams



We find a moderate Pearson correlation coefficient ( $r = 0.60$ ) between the magnetic flux imbalance and the HSS speed, at 1 au, suggesting that flux imbalance is an important factor associated with HSS speed, but its influence is partial, indicating that other physical mechanisms also shape the resulting solar wind stream.