



## **Multi-wavelength observations of narrow coronal holes and their relationship with solar wind**

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Coronal holes provide an important link between the Sun and the heliosphere in the sense that they are likely to be the source regions of solar wind. Traditionally coronal holes are defined as bright areas in He I 10830 Å images, and they usually correspond to dark areas in soft X-ray images. However, their correspondences are not on a one-to-one basis. Apart from filaments, dark areas in EUV images may define yet different sets of coronal holes. We concentrate on narrow coronal holes that are best seen in soft X-ray images. In a few cases, Arge et al. (2003) found that these areas are the sources of slow solar wind. We revisit their study in a larger sample from the Yohkoh/SXT database in comparison with SOHO/EIT and ground-based He I 10830 Å images as well as with solar wind plasma and composition data. In addition to these data sets, SOHO/MDI magnetograms and potential field source surface extrapolation based on MDI data are also used to study the formation and disappearance of narrow coronal holes.