

Large scale chromospheric dynamics: synoptic observations with the full-disk telescope ChroTel.

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Abstract. Since beginning of 2009, the Chromospheric Telescope (ChroTel) on Tenerife records synoptic full-disk images of the solar chromosphere. Narrow-band Lyot filters covering the chromospheric lines Calcium II K (393 nm), H alpha (656 nm) and Helium I (1083 nm) allow for a tracking of structures almost over the whole height range of the chromosphere with a resolution of down to 2". In addition, Doppler maps are being generated by scanning the Helium I line with a tunable Lyot filter.

The coverage of the full solar disk, the high cadence below one minute and the creation of daily movies ensure not to miss the emergence and evolution of structures and events in this interesting layer of the solar atmosphere. The robotic operation, the almost simultaneous data acquisition in three different chromospheric spectral lines and the creation of Doppler maps renders ChroTel an ideal tool for qualitative and statistical studies of large scale chromospheric dynamics.

We will exhibit sample data, outline our method to generate Doppler maps from filtergrams, and report about data access. First scientific results based on ChroTel data will be shown concerning line shifts in network and inter-network and the evolution of large-scale flows along loop-like chromospheric structures.