

Spectral Inversion of the H α and Ca II 8542 A Lines Observed by SST/CRISP in Chromospheric Jets

Július Koza, Zurab Vashalomidze, Ján Rybák, Teimuraz Zaqarashvili, Arnold Hanslmeier

Abstract

We present results of spectral inversion of the H α and Ca II 8542 A lines observed by the imaging spectropolarimeter CRISP at the Swedish 1-m Solar Telescope in chromospheric jets identified in the quiet-Sun atmosphere. The inversion aims to reveal increased turbulence in these jets as a possible consequence of Kelvin-Helmholtz instabilities expected for strongly-sheared plasma flows at jet interfaces. To verify the results physical parameters of the chromospheric jets are inferred by different variants of cloud model inversion technique. The cloud model parameters of the chromospheric jets are supplemented by their lifetimes, widths, maximum lengths, apparent longitudinal velocities, transversal displacements, and transversal velocities to compare them with parameters of Rapid blueshifted events.