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Small scale quiet Sun magnetic features and their evolution

Shibu K. Mathew

*Udaipur Solar Observatory, P. O. Box 198, Badi Road, Udaipur, Rajasthan,
India*

Abstract. The magnetic properties and dynamics of solar fine structures at photospheric level can be well studied with the availability of high resolution spectropolarimetric data. In this paper we present the temporal evolution of small scale magnetic structures observed with HINODE/SOT spectropolarimeter. A time series of around 1 hr data set for a small quiet sun field-of-view is analyzed to obtain the relation between the magnetic flux and the continuum and line-center brightness. The time series is also utilized to look for the relation between the magnetic flux intensification and the line-of-sight velocities. We report the study of small scale structures for their magnetic, size and brightness evolution during the 1 hr period.