

Application of PCA calculations to the Zeeman Doppler
Imaging of solar type stars observed with circular
polarization.

Julio Ramirez (LESIA, Observatoire de Paris)

The results of PCA (Principal components Analysis) calculations applied to theoretical data bases, lead to a new approach to reduce data observed with circular polarization.

Since, in Zeeman effect, the signals in circular polarization are the strongest among all the Stokes parameters, the circular analysis was usually the preferred for the observations of solar type stars.

Now, the stars objects of the observations have quite different atmospheres and we hope that a careful consideration of the variety of atmospheres may lead to a breakthrough in the spectropolarimetric analysis of the rich available data of observations of these stars.