Using a technique modelled after Marraco, Vega, & Vrba (1993, AJ, in press) we have separated the foreground contribution of both the color excesses and the polarizations.

We choose stars considered to belong to the aggregate but being just at the front border. We call them "frontside" stars. They are used to model the contribution of the *foreground* excess and polarization that subsequently will be removed from the remaining member stars to determine the *intracluster* values of these quantities.

We can decide that the observed polarization is not intrinsic, but rather is due to the interstellar material.

We find that IC 2944 follows the general trend of the polarization (projected magnetic field) directions in the zone. We also find that the intra-cluster component of the magnetic field direction is randomly distributed.

DIFFERENTIAL *uvby* PHOTOMETRY OF SOUTHERN Be STARS. HIGHLIGHTS FROM THE RECENT ANALYSIS OF LTPV DATA

Nikolaus Vogt and Ronald Mennickent

Pontificia Universidad Católica de Chile

We present preliminary results of an analysis of 8 years photoelectric monitoring of 19 southern Be stars, obtained in La Silla by the ESO Working Group "Long Term Photometry of Variables" (LTPV) led by Dr. Chris Sterken, Brussels. In our sample we detected the following main classes of Be star variability: eclipsing binaries (1 certain and 1 suspected case: V505 Mon and FX Lib); eruption-like events (3 cases: 27 CMa, ω CMa and β_1 Mon); long-term variations with amplitude $\geq 0\overset{m}{.}1$ and time scales years to decades (8 cases: 27 CMa, ω CMa, MX Pup, FX Lib, V923 Aql, V1294 Aql, ϵ Cap and PP Car), random short-term variations with time scales days to weeks (12 cases: V505 Mon, 10 CMa, ω CMa, FY CMa, MX Pup, FX Lib, HD 173219, V923 Aql, ϵ Cap, HR 2545, o Pup and PP Car); coherent oscillations with periods between 8 and 800 days (5 cases: 10 CMa, FY CMa, ϵ Cap, HR 2545 and o Pup) and incoherent oscillations with periods 3–30 days, lifetime $\sim$10 cycles (3 cases: ω CMa, ϵ Cap and HR 4074). The three stars λ Eri, HR 2142 and HR 3858 remained nearly constant within $\lesssim 0\overset{m}{.}05$.

As highlights of our analysis we may mention: *(i)* for the 54^d eclipsing binary V505 Mon a "supercycle" was detected: the shape of the light curve varies with a $1\,300^d$ period; *(ii)* 27 CMa showed rapid fadings with reddening, probably due to the ejection of dust envelopes; *(iii)* in HR 2545 a coherent oscillation with a $14\overset{d}{.}3$ period was detected, which is present only in y and b, not in the remaining bandpasses at shorter wavelength.

We acknowledge the support for this project of grant FONDECYT 637-91.

OSCILLATORY LUMINOSITY PROFILES AND PULSARS

Roberto O. Aquilano

Instituto de Física Rosario (CONICET-UNR), Planetario y Observatorio Astronómico Municipal de Rosario, and Instituto Politécnico Sup. Gral. San Martín (UNR), Argentina

and

Luis A. Núñez

Lab. de Física Teórica, Depto. de Física Universidad de Los Andes, Venezuela

Several very interesting, and not well understood, astrophysical scenarios are associated with a periodical emission of radiation from collapsed compact objects. Pulsars are the most common representative examples of this phenomenon. The rapid variation of luminosity of a young supernova remnant, generally interpreted as due to its rotation, can be alternatively explained as radial oscillations of the compact object.

We used the method proposed by Herrera and collaborators in 1980 to study general relativistic spheres to obtain models describing non-static radiating spheres starting from well known static equations of state.

The present work explores the diffusion limit for the radiation field, with inter-relations between oscillations of the surface of compact objects and their pulsating luminosity profiles.

SOUTHERN RS CVN SYSTEMS *UBVRI* PHOTOMETRY

María Lina Berrios S., Manlio Maldini S., José Fernández L., and Sergio Char C.

Universidad de La Serena, Chile

The RS CVn are binary systems including dwarf stars from the main sequence, sub-giants or giants of the F, G or K type. Photometric fluctuations can be attributed to large scale photospheric spots discretely distributed on the stellar surface. Magnetic fields associated to these spots are assumed to heat the chromosphere's transition zone and the corona, which becomes evident by emissions in the chro-