Current ground-based observations of CP stars

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There has been substantial progress in understanding CP Stars in the last few years due to ground-based observations. The discovery that only the mCP types have magnetic fields raises important issues about their development and the earliest possible detection of their surface fields. It is now clear that in the envelopes and atmospheres of these types of stars magnetic fields play an important role. A statistical analysis of high quality photometric studies now has shown that all magnetic stars are photometric variables. Further some class members have light curves taken during different observing seasons which are variable suggesting that their rotational axes precess about their magnetic axes.

In the HgMn and Am stars, which form a single class, radiative processes dominate their atmospheres and envelopes. Abundance studies especially near spectral types A0-A2 and F0-F1 have raised the possibility that they can be considered metal rich normal stars. High quality photometric studies have shown that single HgMn and Am stars are non-variable. Another line of work concerning the HgMn α And has shown that the Hg II λ 3984 periodically varies with a period of 2.38 days and that changes in seasonal light curve can be found in two years. This observation has been interpreted to be due to stellar weather.