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**TO OWNERS AND KEEPERS OF PLATE COLLECTIONS
OBTAINED TO STUDY FLARE STARS IN STAR CLUSTERS**

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About a dozen observatories have large plate collections that were obtained for studying flare stars in stellar clusters by the chain method. The collections were accumulated mainly in 60-80-es and permitted to detect several thousand red dwarf flare stars. However, the last 10-15 years these collections are practically not used. I should like to propose a second life for these plates: to use them to study the spottedness of flare stars.

As a rule, there are photometric standards on a plate with a stellar cluster. If not, they can be obtained additionally. The job that I propose is measurements of stellar brightness in that chains which are free from flare effects. If a collection covers 10-15 years or more, these measurements can provide the data necessary to study stellar spottedness of many dozens of the cluster members, the stars of the same age.

Since spottedness effects are from 0.4 down to several hundredths of stellar magnitude (Alekseev and Gershberg, 1996), the measurements should be rather accurate. In principle, the spottedness effect is a differential one, and for a large collection it would be enough to detect brightness differences only for different epochs. However, to unite data of various collections it is necessary to determine the stellar magnitudes, not their differences, accounting for systematic photometric errors over a field of telescopes used. In any case, it is necessary to publish lists of standard stars used.

Long-term variations of stellar spottedness give a direct information on stellar activity cycles (Phillips and Hartmann, 1978; Hartmann et al., 1981; Bondar, 1995). However, up to date the main source of these data was the long-term observations of stellar chromospheric activity (Baliunas et al., 1995). Unfortunately, among 111 stars, studied during 25 years of these observations, there is only one late dwarf Lalande 21185 (=Gliese 411) of dM2.1e spectral class, but no periodicity was found in its very variable chromospheric emission. The latest spectral class star, where Baliunas et al. (1995) have found some periodicity is K7 dwarf HD 201092. Recently the activity cycle of the flare star EV Lac was detected on the base of statistics of its flares (Alekseev and Gershberg, 1997). However, only a few stars have long enough photometric series for such studies.

According to a contemporary active discussion on stellar magnetism of low-mass stars (Drake et al., 1996), in completely convective stars of about 0.3 solar masses, the solar type dynamo mechanism should cease to operate and to generate large-scale solar type magnetic field. Instead, a turbulent dynamo mechanism comes into effect, that should have no cyclicity. Therefore a study of spottedness of late-type stars and search for the existence of activity cycles of late M stars is of high interest.

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