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Pulsating B stars in the LMC

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<p>Pigulski and Kolaczkowski (2002, AA 388, 88) announced the first discovery of Beta Cephei (BCep) pulsators in the LMC. This was a remarkable discovery, since theoretical analyses of pulsational stability had previously predicted that early B main-sequence stars with metallicities lower than Z = 0.01 should not pulsate at all (e.g. Pamyatnykh 1999, Acta Astron 49, 199). Following this announcement, and announcements of 92 BCep candidates in the LMC by Kolaczkowski and Pigulski (2006, MemSAIt. 77, 336), more detailed studies adopting a variety of opacity calculations and metal mixtures indicated that BCep pulsations could be explained in low-metallicity environments after all (Miglio et al. 2007, MNRAS 375, L21; Miglio et al. 2007, Com.Ast. 151, 48; Zdravkov and Pamyatnykh 2008, J.Phys.Conf.Ser. 118, 012079). In order to ascertain the nature of these pulsations, multi-colour photometry of sufficient precision is required.

We have obtained 4 weeks of UBVI photometry on two fields in the LMC that surround stars which have been identified as strong Beta Cephei candidates from OGLE data. We report on the results of this photometric campaign.

Level (Hons, MSc,
   PhD, other)?

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Consider for a student
   award (Yes / No)?

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Would you like to
 submit a short paper
 for the Conference
 Proceedings (Yes / No)?

Yes

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