Pulsation analysis of early B-type stars from the BRITE Sagittarius field (#975)

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The hybrid pulsators of \$\beta\$ Cep/SPB type pose a problem for stellar theory since standard models cannot explain their whole observed frequency range. To approach the issue more generally, it is necessary to study more and more pulsators of this type. We analyse and interpret the light curves and pulsational frequencies of the three B-type stars observed by the BRITE satellites: \$\theta\$ Oph, \$\upsilon\$ Sco and \$\kappa\$ Sco.

Our preliminary analysis of the BRITE data has revealed in \$\theta\$ Oph the previously unknown pulsation in SPB-type modes and suggested similar results for \$\upsilon\$ Sco and \$\kappa\$ Sco. These three stars would be the next ones confirming that SPB-type pulsations are quite common amongst \$\beta\$ Cep variables.

From seismic modelling of a larger sample of the hybrid early B-type pulsators, we try to draw more general conclusions about needed modifications of the internal structure of hot main sequence stars.