BRITE-Constellation: Science Potential (#842)

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The talk will attempt to compile, summarize, and annotate the scientific harvest of BRITE Constellation from the literature with additional last-minute updates from the meeting.

The scientific applications of BRITE-Constellation have been guided by the main strengths of the project: long-term high-cadence space-precision photometry of large fields containing many bright stars. They imply a preference for the planes of the MilkyWay and Gould's belt with occasional specific high-promise fields selected at higher latitudes. As the result, the proportion of early-type stars is very high, which offer plenty of science goals requiring the capabilities of BRITE: multi-mode pulsations, mass loss, rotation, interactions in close binaries, magnetic fields, circumstellar matter, etc. Quite often two or more of these topics had to – and could – be addressed at once. As expected, in some projects synergies with high-quality data from spectroscopy and more specialized observing techniques proved very valuable.

Less expected was it that BRITE can detect and characterize also variabilities on time scales of a month or even more, especially with repeated visits of the same field. This has certified BRITE-Constellation also for cool stars although their spectral-energy distribution and lack of clustering of bright objects are drawbacks