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Abstract: T. Kallinger, M. Gruberbauer, and members of KASC WG2 and WG8

Stellar astrophysics has tremendously benefited from helio- and asteroseismology during the last years. However, a test is, still lacking if current standard stellar structure models are able to reproduce the observed oscillation frequencies, and therefore the inner structure, of a star with a-priori known surface properties. Remarkably, there is only the Sun for which such a fundamental test and comparison yet has been made to a sufficient accuracy. Even in the age of high-precision space missions, there is not a single star for which the surface properties and - at the same time - the eigenfrequencies are known well enough to perform such a test with comparable accuracy as for the Sun. One might expect that very bright solar-type oscillating stars are perfect candidates for such a test as their fundamental parameters are well constrained from ground observations. But their frequencies, on the other hand, are known less accurately, since the stars are not accessible to the high performance space-photometry of, e.g., CoRoT or Kepler. The stars that are accessible to these missions and for which we have excellent frequency accuracy are much fainter and consequently their fundamental parameters, derived from ground, are often ambiguous. A chance to overcome these restrictions to a large extent is provided by stars in clusters. Even though their absolute fundamental parameters may remain uncertain, because the cluster stars themselves are faint and it is difficult to precisely determine, e.g., their distance, the fact that they are cluster members (i.e., they have the same distance, age, etc.) can be used to determine very accurate relative parameters. The first realistic chance to use this cluster bonus in asteroseismology of solar-type oscillations is provided by Kepler, which has already detected solar-type oscillations in about 100 red giants in two different clusters. We present first results from our comparison between theoretical eigenspectra of large and dense grids of red-giant models and the precise individual oscillation frequencies extracted from the Kepler observations.