

Progress in the classification of second order superintegrable systems

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Superintegrable systems have been studied for a number of years, both by those interested in special functions and those interested in the properties of physical systems with a high degree of symmetry. The second order superintegrable systems allow separation of variables in multiple coordinate systems and as a result have been more amenable to classification. While significant progress has been achieved, the classification is only complete in a few restricted cases such as non-degenerate systems on conformally flat spaces in two and three dimensions where the systems are parameterised by an algebraic variety. This talk will discuss recent work with Konrad Schöbel, Andreas Vollmer and Jeremy Nugent gives hope that these results can be extended to n dimensions and degenerate systems.

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