Remembering Willard Miller: Beyond separation of variables, superintegrability

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Abstract:

Three concepts associated with name of Willard Miller Jr (1937 - 2023) - towering figure in mathematics (analysis, PDE, special functions, orthogonal polynomials, theory of operators) and theoretical physics (planar and many-body quantum mechanics, (super)-integrable systems) -

will be presented:

(i) Beyond of separation of variables

(ii) Superintegrability: Tremblay-Turbiner-Winternitz (TTW) model at rational index k

(iii) Superintegrability: polynomial algebras of integrals