Garvan, Frank; Schlosser, Michael J.
Combinatorial interpretations of Ramanujan’s tau function. (English) Zbl 1393.05061

Summary: We use a \(q\)-series identity by Ramanujan to give a combinatorial interpretation of Ramanujan’s tau function which involves \(t\)-cores and a new class of partitions which we call \((m,k)\)-capsids. The same method can be applied in conjunction with other related identities yielding alternative combinatorial interpretations of the tau function.

MSC: 05A30 \(q\)-calculus and related topics 05A17 Combinatorial aspects of partitions of integers 11P81 Elementary theory of partitions 11A07 Congruences; primitive roots; residue systems

Keywords: Ramanujan’s tau function; \(q\)-series; partitions; \(t\)-cores; \((m,k)\)-capsids

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References:

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[26] Ramanujan, S., Algebraic relations between certain infinite products, Proc. Lond. Math. Soc., 18, 2, (1920), xviii · Zbl 47.0904.05


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