

Brian Hopkins and Aram Tangboonduangjit
Verifying and Generalizing Arndt's Compositions,
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Abstract

In 2013, Joerg Arndt recorded that the Fibonacci numbers count integer compositions where the first part is greater than the second, the third part is greater than the fourth, etc. We provide two combinatorial proofs that verify his observation. Also, we generalize the descent condition and establish families of recurrence relations. Compositions with parts restricted to 1 and 2 play an important role.