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Daniel Parry* (dan.t.parry@gmail.com), NJ. *Elementary Properties of Concave Compositions*. Preliminary report.

A concave composition of n is a sum of nonnegative integers

$$\sum_{i=0}^L \lambda_i^- + c + \sum_{i=0}^R \lambda_i^+ = n$$

with $\lambda_1^- \geq \lambda_2^- \geq \cdots \geq \lambda_L^- > c < \lambda_1^+ \leq \lambda_2^+ \leq \cdots \leq \lambda_R^+$. Concave compositions are connected to the study of mock theta functions as well as self avoiding random walks. In a recent paper by Andrews, Rhoades, and Zwegers, questions were posed about the statistical properties of a concave composition and its likely shape.

This talk will aim to discuss the properties of the length, perimeter, and tilt of a typical concave composition as well as describe its likely shape. We hope to convince the audience that while concave compositions are new, from a statistical standpoint they are no different than pairs of integer partitions roughly of the same size which are placed next to each other. (Received August 16, 2013)