

Abstract Submitted  
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**Asymptotics of the Wigner 9j-Symbol** HAL HAGGARD, ROBERT LITTLEJOHN, University of California, Berkeley — We present the asymptotic formula for the Wigner  $9j$ -symbol, valid when all quantum numbers are large. The formula is a generalization of the well known asymptotic formula of Ponzano and Regge (1968) for the Wigner  $6j$ -symbol that has played a central role in discrete approaches to  $3D$  quantum gravity. Analysis of the classically allowed region of the  $9j$ -symbol reveals a geometrically rich structure. We conclude with a discussion of the extension of our methods to higher  $3nj$ -symbols. Asymptotic formulas for the higher  $3nj$ -symbols will clarify the semiclassical limit of spinfoam approaches to quantum gravity.

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